

University News

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Shri G. S. Randhawa, Vice-Chancellor, Guru Nanak Dev University receiving the Maulana Abul Kalam Azad Trophy from Shri R. Venkataraman, President of India.

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Editor :
SUTINDER SINGH

UNIVERSITIES Management in Non-Profit Organisations

S D Tripathi*

Non-profit organisations and service institutions, like Universities, hospitals, research laboratories, health care institutions, clubs, professional and trade associations etc., have become an increasingly necessary concomitants of our social system. They are the main pillars of a modern civilization, embodying the values of developed societies. They have to perform if society and economy are to function efficiently. While every citizen in the contemporary industrialised and urbanised societies depends for survival and growth on the performance of public service institutions, in every country there are ever-increasing complaints against bureaucracy and mismanagement in such institutions.

The present paper based on the setting of university as a social organisation in particular attempts to focus on the problems of management in non profit organisations in general.

Universities, though non profit organisations in nature, are as much institutions as are business firms and are equally in need of management. They all have people who are designed to exercise the management function and who perform management jobs, even though they may not be called managers but as registrars, administrators, directors, or some other titles. Like profit oriented organisations, they have objectives and one of their important management functions is an efficient and effective use of available organisational resources—human, financial and material. In the process of managing business, firms have developed a number of valuable tools for analysing effectiveness or otherwise of management—budgets, responsibility centres, cost analysis m.b.o., linear programming, profitability analysis etc. most of which can be used or adopted for use in non profit organisations like universities also.

Nonetheless, university, as a public service institution, is in a fundamentally different business. It is different in its purpose, it has different values, it needs different objectives; and it makes different contributions to the society. 'Management for performance' is one of the areas in which service institutions like universities differ significantly from business.

By and large management of service institutions in general and universities in particular is mediocre. There are three popular explanations for the common failure of universities as service institutions to perform: (i) their objectives and results are intangible, (ii) their basic problem is not high cost but lack of effectiveness/efficiency, and (iii) their managers are not businesslike and they need better men.

University as a non-profit organisation exists to render a service; its success is measured primarily by how well it renders this service. There are six possible reasons for the present deplorable state of affairs:

- (i) The absence of the 'measure of efficiency'
- (ii) The lack of competition
- (iii) Politics
- (iv) Weak Governing Boards

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- (v) Traditions: and
- (vi) Compensation system

While a profit-oriented organisation exists to earn a profit and its success is measured primarily by the amount of profit, in the case of non-profit organisations, service is a fuzzy concept. No one can establish a mathematical relationship between money spent and benefits received in the university system. The difficulty of defining objectives; of deciding on the resources required to reach objectives; and of measuring the efficiency and effectiveness with which the organisations perform to meet objectives, is the most serious management problem in a service organisation like universities. There is no foreseeable way of developing a control structure in a non-profit organisation that is as good as a structure that can be built around the profit measure. The unique problem is to develop better measures of output—the organisation does and how well it does it.

Service institutions like universities are typically paid out of a budget allocation. 'Results' in a budget-based institution mean a bigger budget. Performance is the ability to maintain or to increase one's budget. And the budget is by definition, related not to the achievement of any goals, but to the intention of achieving the goals. The efficiency and cost control, however, much they are being preached are not really considered virtues in the budget-based institutions. The importance of a budget-based institution is measured essentially by the size of its budget and the size of its staff. Dependence on a budget allocation militates against setting priorities and concentrating efforts.

What is the alternative objective/purpose against which a non-profit service institution like university may be evaluated? Charles W. Eliot (President Harvard 1869-1909) saw the purpose of the university as that of 'educating a leadership group with a distinct style'. N.M. Butler (President Columbia 1902-1945) and W.R. Harper (President, Chicago 1892-1904) saw the function of the university as 'the systematic application of rational thought and analysis to the basic problems of modern society from education to economics, from domestic government to foreign affairs'. D.C. Gilman (President John Hopkins 1876-1901) maintained that 'university has to be viewed as the producer of advanced knowledge'. A.D. White (President Cornell 1868-1885) felt that 'university aimed at producing an educated people'. To make service institution perform, does not require 'great men'; it requires instead a 'system'. What has to be learned is to

manage service institutions like universities for performance.

In many a non-profit organisations, particularly universities, the new client is not an opportunity; he is a problem. He is not a source of revenue; he is a source of headaches. Most universities have no motivation because they have no competition. Their revenues are allocated from a general stream of revenues of the state that is not tied to what they are doing, but is obtained by tax, levy or tribute. Furthermore, a typical service institution like university is endowed with monopoly power; the intended beneficiary usually has no choice.

Not all the public service organisations are political, but in those that are like universities, political considerations impede good management. Politics is inevitable, but there are opportunities to lessen the political influence in such organisations. One of the desirable ways is to reduce the number of officials elected and to increase the number of those who are appointed through a rotational system. In all organisations, the top man is responsible to some policy-making and review body. In universities, there are syndicates, Executive Councils or a body with a similar title. Its function is to set policy and to check up how well this policy is carried out. By and large, these bodies do not do a good job; generally they tend to rubber stamp the policies of the institution's to executive. They have neither the time nor competence to do otherwise.

The tradition that the head of an organisation should be a technical specialist disappeared from business companies early in the 20th century. It still persists in non-profit organisations like universities and results in selection of top men, who simply are not qualified to manage. They would be happier working at the specialties. A second influence of tradition is that these organisations have been slow to adopt modern management techniques. Non-profit organisations do differ from profit-oriented companies, but they have much in common also. They both have objectives and in both cases an important management function is to see to it that the organisation uses its resources efficiently and effectively.

The mere statement of the problem suggests the solution. Get rid of the traditional way of thinking about the management; recognise the management function for what it is; and use the modern management techniques that are available. This is the course

much easier said than done. It requires education; it requires pressure and this is where the revitalised top management in the universities can play a key role.

Above all, a new breed of managers is needed in non-profit organisations like universities. In order to get them, the compensation system in the universities will have to be made more attractive to young people, who are choosing a career. The problems of measuring performance and the inevitable political considerations make the management job inherently more difficult in non-profit organisations. But the quality of management can be a lot better than it is now, with the adoption of modern management methods, increased competition, a new role of the top management bodies and greater public recognition of university autonomy. Non-profit organisations are now becoming more attractive and challenging place to work.

The set of interpersonal relationships which operates in the context of position, procedure, process, technology and social environment comprises of what is known as the organisational structure. The primary responsibility of educational manager is to improve the work of the people, he supervises; to improve the products (students), and to improve the team effort that makes the organisation successful. Through successful accomplishment of the above, he also improves himself. Accomplishment of an accountability concept in universities means that one must explicate clearly defined objectives and goals and have developed a management plan whereby goals can be reached in measurable ways. Universities have to adopt the strategy of organisational development as a response to change and as a complex educational strategy intended to change the beliefs, attitudes, values and structure of organisations so that they can better adopt new technologies, markets and challenges and the dizzying rate of change itself.

Non-profit organisations and service institutions in general and universities in particular have to prepare for management orientation, if they have to perform. Following steps are suggested for the purpose:

- (i) Define nature and norms of their business;
- (ii) Develop clear objectives and goals from the definition of functions;
- (iii) Allot priorities of concentration like selection of targets, setting up of standards of performance, setting deadlines and developing accountability;

- (iv) Define measures of performance;
- (v) Use measurements as feedback by building self-control from results into the system; and
- (vi) Install organised audit of objectives and results.

It should ever be kept in mind that university as a service organisation is the rational coordination of the activities of a number of people for the achievement of common explicit purpose or goal through division of labour and function and through hierarchy of authority and responsibility. ☐



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RESTRUCTURING B.COM. COURSE

P. K. Nair*

This paper is confined to the restructuring of course for B.Com. Degree in the light of its existing structure as provided by the university of Bombay. The details of the syllabi of each paper or subject provided in the course will not be discussed; only the pattern or arrangement of papers/subjects will be examined. First, the three year integrated course leading to the degree of B.Com. is patterned as follows :

A student for the three year B.Com Degree Course is required to offer 18 papers from the following five groups of subjects :

1. Foundation Course Group – Two Papers (2)
2. Applied Component Group – Two Papers (2)
3. Commerce Discipline
(Compulsory) – Ten Papers (10)
4. Ancillary Subjects – One Paper (1)
5. Special Group – Three Papers (3)

The subjects prescribed for the B.Com Degree Examination and the papers assigned to each subject (the first at First Year and the Second at Second Year) are as follows :

I Foundation Course Group—Two Papers

Subjects		Number of Papers
1. (a)	Elements of Social and Economic Life in India)	
	or)	
(b)	History of Modern Civilization (Asia and Africa))	1
	Any one of the following :)	
	(i) China, (ii) Japan, (iii) South-East Asia (iv) Africa)	
2. (a)	Scientific Methods:)	
	and)	
(b)	Science, Technology and Development.)	1

II Applied Component Group --Two Papers

Twenty one subjects are prescribed for study under the Applied Component Group out of which a student will be required to offer any two subjects, one at

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Second Year and the other at Third Year. There is one paper in each subject. Some of these among 21 subjects are Export Management, Marketing Research, Advertising, Labour Welfare and Industrial Relations, Management of a Small Scale Industry, Computer System etc. Some other subjects are Panchayati Raj, Physical Culture including Yoga Studies, Non-formal Education etc.

III Commerce Discipline—(Compulsory)—Ten Papers

Subject	Number of Papers
1. Commerce and Market	2 { 1 at S.Y. B.Com. 1 at T.Y. B.Com.
2. Business Economics	2 { 1 at F.Y. B.Com. 1 at S.Y. B.Com.
3. Business Law	1 at S.Y. B.Com.
4. Mathematical & Statistical Techniques	1 at F.Y. B.Com.
5. Business Communication	1 at F.Y. B.Com.
6. Commercial Geography	1 at F.Y. B.Com.
7. Accounting and Financial Management	} { 1 at F.Y. B.Com. 1 at S.Y. B.Com.
Or	
Actuarial Science (General)	
Or	} { 1 at S.Y. B.Com.
Law (General)	

IV Ancillary Subjects—One Paper

The following are the subjects prescribed for study under the Ancillary Group from which a student should choose any one at Third Year B Com. There is one paper in each:

1. Human Ecology and Environment
2. Economic History of India : 1818-1951
3. One Foreign Language other than English or Literature in one Modern Indian Language including English
4. Regional Planning including Population study
5. Sociology
6. Psychology
7. Philosophy
8. Outlines of Government and Politics in India
9. Industrial Psychology
10. Economic System

V Special Group

The following subjects—each subject having three papers—have been prescribed for Specialisation of which a student must choose any one at Third Year B.Com.

1. Financial Accounting and Auditing
2. Cost Accounting
3. Business Management
4. Company Secretarial Practice
5. Banking and Finance
6. Foreign Trade
7. Applied Economics
8. Actuarial Science
9. Rural Development
10. Law

The rationale of the above structure and subjects may be examined now. It seems Foundation Course group was introduced to bring into the scheme interdisciplinary approach in the sense that a commerce graduate should not be unaware of the socio-political, economic and scientific-technological environments in which he is supposed to live and function. It seems that the first paper is supposed to make him patriotic and broad-minded if he had not yet already imbibed these qualities. The second paper is to train him in scientific reasoning and attitude so that he will be free from prejudice and obscurantism.

The intention of introducing Applied Component group is not clear. It was declared in workshops arranged for teaching these subjects that Applied Component was not the same as the Vocational Component. It has nothing to do with employment orientation. Applied Component was explained as applied or practical aspect of theory. One may wonder what is the applied aspect of Commerce which itself is the applied aspect of economic theory.

The Commerce Discipline group consists of some subjects like Business Law, Commercial Geography etc. How are such of these subjects within the commerce discipline itself? They can be termed or grouped as even Ancillaries. On the other hand, in the Ancillary group there are subjects which are not directly "Supportive" to commerce (such as French, German, Marathi, Hindi etc.).

Now let us discuss the syllabi of some of the subjects mentioned above.

Business Communication

Objectives of teaching this paper, as stated, are :

- (a) to provide an intellectual interest to the study

of Business Communication problems in the field of Commerce;

- (b) to help the theoretical study with a discussion of practical situations in the business world; and
- (c) to equip the students with an ability to have effective oral and written communication

Some of the topics included are objectives, types, methods of Business Communication, Committees, public relations, interviews, Conferences, Communication log etc. The task of imparting education on these above topics has been assigned to lecturers in English literature. Naturally, the teacher who is basically trained in the grammar, idiom, usage and style and deeply immersed in literature as such is a fish out of water! She/he indeed deserves sympathy as she/he is likely to have no training in the technological instruments of communication like telephone, telex etc. This paper is supposed to help the students to improve their communication skill. But it has been a failure because the syllabus for this paper is a hotchpotch. Nothing is therein to develop command over usage of any language which is the essence of communication skill. One cannot communicate clearly and fluently without proficiency in language. Teaching of communication through any language without anything to do with grammar, usage and style is an exercise in futility. It may be clarified that it is not something pertaining to English alone. On the other hand, some other topics like writing application and bio-data, testimonials, letters of appointments and termination etc., can be taught by any teacher in English, but are thrust upon those students whose medium of instruction/learning are not English. They are not taught such topics in their own mother tongue. Isn't it necessary to teach them how to apply for jobs in Marathi or Hindi? Therefore, it is better to provide for a paper on English Marathi Hindi according to the medium of learning the student has opted for.

In the existing pattern, the papers in Economics are named "Business Economics". But it has been proved to be "Old wine of Economic Theory in the new bottle of Business". It is quite obvious the result cannot be different. Economics is indeed the study of ordinary "business of life". It seems the prefix "Business" was given to Economics in order to blunt the thoughtless criticism of Commerce/Accountancy Departments that the Commerce course was loaded with too much economics. But what is Com-

merce? It is after all Applied Economics. Economics may be even called "Pure Theory of Commerce".

Some say "the contents of the papers taught in Business Economics are highly theory oriented and do not give adequate attention to applied aspects of economics". Will not theory orientation help develop analytical and abstract thinking capacity and contribute to intellectual discipline? While "Commerce" which is itself "Applied Economics" is there, why should "Economics" be deprived or devoid of theoretical orientation? What purpose will Commerce serve if it does not itself as such provide applied aspects of Economics? Commerce is Applied Economics, is Business Economics, is Managerial Economics. Any adjective prefixed to Economics as theory should be avoided in the interest of clear thinking. The present paper I is overloaded with both Micro and Macro Economics and devoid of Indian experience. This paper should be revised as **Micro-Static Economic Theory** with reference to its application to the Indian Economy.

Foundation Course Paper-I—Social and Economic Life in India contains nothing new and challenging to the students of B.Com as they would have studied most of the topics even in schools. Other subjects offered like Japan, China, South-East Asia, Africa are not popular with commerce students. This paper can be replaced by a **Vocational Component** paper. This **Vocational Component** is NOT Applied Component. Vocational Component requires that students should actually "Do" something. 100% marks should be assigned for practical experience. There is no need for any theory or classroom teaching. Every Saturday students should find time and situation to do something. Many things can be done even inside the College like running a canteen, a cooperative store, typing, teaching or helping to run the College office, interior decoration of the college itself. Some can work outside and bring certificates.

At present there is no paper/subject in Commerce taught at the F.Y. B.Com level. A paper on Business/Industrial Organisation can be introduced there.

At the Second year level, the present paper i.e. **Business Economics Paper-II** which has two sections viz 1. Public Finance; and 2. International Economics may be replaced by **Macro—Comparative-Static Economic Theory** with reference to the Indian Economy.

The Commerce Paper-I (Business Planning) may be replaced by Principles of Management.

The Business Law paper may be broadened in content by including Company Secretary Practice, Company Law, MRTP Act. It can be renamed suitably as Commercial or Mercantile Law.

In the existing scheme, there is a paper on Applied Component group. If commerce itself is "Applied" branch of a discipline, there is no need for any "conspicuous" Applied Component group. We can accommodate the relevant subjects under the existing Applied Component group in Commerce main papers themselves.

Auditing may be taught at the Second year level instead of the existing Third year level

Ancillary subjects are supportive or secondary to the main discipline. In the existing course, English, Sociology etc., which are themselves "Independent" disciplines, are treated as "ancillaries". Ancillaries to Economics and Commerce are Agriculture, Banking, Economic History, Economic Systems, Finance, Foreign trade, Transport, Labour and Trade Unionism etc. There is scope for providing one/two Ancillary papers at the S.Y. B.Com level.

There can be a compulsory paper on Development Economics instead of the existing Ancillary paper. No Ancillary paper need be kept at the Third Year level.

The Commerce Paper III may consist of two sections Marketing Research (the study of technique of finding out the Market) and Advertising (the study of technique of Capturing the Market). These two are at present optionals under the Applied Component Group.

Costing and Works Accounting should be compulsory subject.

Three papers may be assigned for "Specialisation" either in Financial Management or Business Management or Cost and Works Accounting or Company Secretary Practice or Banking or Insurance or Actuarial Science etc.

Any thought on restructuring of courses must start with answering the following questions: (1) What should be the specific objective of Commerce course at the B.Com Degree level? It cannot be inculcation

of patriotism, of pride in our cultural heritage, of social awareness etc., though they are important objectives from the broad view of educational policy. we should take it for granted that the students of B.Com course are already patriotic, proud of heritage and socially aware as they would have been conditioned at their schools. The objective can then be to put it crudely : To provide human resource material for making of Chartered Accountants, Cost and Works Accountants, Company Secretaries, Business and Industrial Managers, Entrepreneurs, Bankers, Insurers etc. To bring in idealistic objectives will be at the risk of clouding the basic and specific purpose. If we can consider "Career Courses" in C.A., C.W.A., C.S., M.B.A. etc. as specialisation, than B.Com course should prepare the students for these courses B.Com.

Degree should be a "Gate-Way" into the same above specialisations.

The Second question then should be : What are the qualities such B.Com graduates should possess ? They are :

1. Communication Skill
2. Numerical Ability
3. Abstract (Analytical) Thinking Capacity
4. Manipulative or Organisational Faculty
5. Vocational Familiarity.

Having made some random observations, I suggest the pattern of course for the B.Com. Degree as follows :

PATTERN SUGGESTED

Objectives	First Year B.Com	Second Year B.Com.	Third Year B.Com.
1. Communication Skill	1. English/Chosen Medium	1. Business Commercial/ Mercantile Law including Secretarial Practice and MRTPA Act	1. Marketing Research—Section-I Advertising-Section-II
2. Numerical Ability	2. Mathematics & Statistics.	2. Ancillary*-I	2. Cost & Works Accounting
3. Abstract (Analytical) Thinking Capacity.	3. Static-Micro Economics with reference to Indian Economy.	3. Comparative—Static Marco Economics with Ref. to Indian Economy	3. Dynamics of Economic Development with reference to India
4. Manipulative or organisational Faculty	4. Industrial Business Organisation.	4. Principles of Management Practice	4. Special Subject Paper-I
5. Basic	5. Accountancy	5. Auditing	5. Special Subject Paper-II
6. Vocational Familiarity	6. (a) Computer Programming (b) Journalism (c) Hotelery (d) Stock-broking and Financial Intermediary (e) Copy writing (f) Salesmanship (g) Estate Agency and Building Construction (h) Stenography (i) Market Data Collection (j) Retail Store running (k) Commercial Photography (l) Material Handling and Store-keeping (m) Interior Decoration (n) Teaching etc.	6. Ancillary* II *Any from the following : (a) Public Finance (b) International/Foreign Commerce Or World Trade—Export Management. (c) Economic Systems (d) Economic History (e) Cooperative Movement (f) Industrial Relations and Labour Welfare (g) Agriculture—Rural Economy (h) Industry (i) Transport (j) Computer System.	6. Special Subject Paper-III

WOMEN AND SOCIAL CHANGE

Basing his discourse on three recent news reports about women—An Indian Exhibition on 'Stri' at Moscow, proposal to debate 'Sati', and the call for creating conditions conducive to equality of sexes—Prof K. Satchidananda Murty, Vice-Chairman, University Grants Commission vexed eloquent on the need to improve women's actual situation in India. He was all for condemning irrationality, inequality, intolerance and injustice wherever they may exist—in scriptures or religion as practised or in social organisation and customs, but the philosopher in him revolted against an indiscriminate fight against religion and or tradition which was neither right nor rational. Prof Murty was addressing the second convocation of Sri Padmavati Mahila Viswavidyalayam, Tirupati. Excerpts.

I would like to discourse with reference to three current news items.

(1) An Indian exhibition on "Stri" (Woman) held recently at Moscow is reported to have dwelt on conceptions like woman as prakriti (nature), shakti (energy), kali (power) and matrika (universal mother), finally culminating in ardhanaresvara (male-female Lord). While such an exhibition must have been enlightening to those interested

mutually inseparable. Like speech and intention, vagarthaviva, in the words of Kalidasa. But it is doubtful if these profound spiritual concepts could become instruments of social change. Conceptions like those of the Eternal Sophia or the Virgin-Mother are equally valuable in the spiritual realm. I recall C.G. Jung hailing the proclamation in 1950 of the Dogma of the Assumption of the Virgin as the most important religious event since the Reformation. (Anwort

Convocation

in Indian philosophico-religious ideas, profanation and secularisation of concepts like ardhanaresvara may not be justified, useful or relevant for contemporary purposes. It is true the great Yogi Siva 'established' Parvati in half his body (yamanirata dehardhaghata, as the *Mahimnastotra*, 23, says). It is equally true that Lakshmi eternally resides in the chest of Narayana (Tadvakshashtalanityavasarasikam, as *Sri Venkatesvaraprapatti* says). Siva-Parvati and Lakshmi-Narayana are

auf *Iliob*, 1952). Similarly the Tantric conception of Shakti as Creative Dynamism, and the related techniques of autonomising sensual pleasure, attaining great happiness (mahasukha) and divinising the human body through erotic acts without consummation and physical effects, with the help of a woman who would throughout the process remain passive, impersonal and pure, appear to be based on certain metaphysical and psychological truths and experiences. But one wonders whether they may and can

be justifiably and usefully pressed into service in the efforts to improve women's actual situation in India. Widespread and loose popularisation of such ideas and resort to occult practices claiming to be based on them led to the discredit of Hindu and Buddhist Tantras.

(2) A few days ago it was reported that a Swami of a Samaj had challenged the Head of a Math to a public debate on the question whether or not "Sati" has been sanctioned by the Hindu sacred scriptures. Long ago the best scholars have shown that the struts and authoritative ancient smritis do not sanction any such thing. Reason and good sense, as well as the conscience of any contemporary civilized person, are unanimous in considering it cruel, barbarous and outrageous. Moreover, even if some dharmasastraic passage were to be produced to show that it has been sanctioned, the greatest smritis have long ago laid down what ought to be done in such cases. According to Manu, any dharma which results in unhappiness and regress and horrifies the world must not be performed. (Dharmam capi asukhodarkam lokavikrushtameva ca. IV. 176) Dharma is only that which is ever practised by the learned and the good who are free from aversion and attachment as well as in accordance with reason. Nothing that makes one ashamed and anything which does not give one *tushti* (satisfaction/happiness/sense of fulfilment) cannot be dharma (Manu, XII.35-7). Moreover, Manu points out, dharmas differ from age to age (Dharmah—nrunam yughasanurupatah, 185). Yajñavalkya's view is identical. Even if it has been prescribed, what will not lead to heaven and what is opposed to civilised consensus or is

likely to be condemned by society, ought not to be performed. Interestingly, Vijnanesvara gives veal-offering to an honoured guest (madhuparkagovadhakam), prescribed in some dharmaśāstra or by some tradition, as an example of a 'dharma' which ought not to be practised. Human sacrifice, "sati" etc. might have the sanction of some scripture or śāstra, and might have been practised by some at some time. But as today they appear to us to be irrational, cruel, outrageous and barbarous, they should be eliminated from a civilised society. A public or private debate on their possible śāstric sanction has no practical relevance.

It is most gratifying that on November 16, 1987, in the Lok Sabha, Shri P.V. Narasimha Rao stated as follows :

Government do not want to know what Manu said or Shaṅkara-charyas are saying on Sati. We are the modern Manus. We want to take only the progressive interpretation of Manu's teachings.

This is a wise and courageous statement, which is important as it comes from a scholar-statesman in the cabinet, who knows deeply and loves intensely Indian tradition and has a critical and rational outlook.

(3) In a recent lecture an eminent retired judge of our highest court made a powerful plea for creating conditions necessary to achieve equality between the sexes guaranteed by the Constitution. I fully share his concern in this matter and join him and others in condemning irrationality, inequality, intolerance and injustice wherever they may exist—in scriptures and religion as practised or in social organisation and customs. But an indiscriminate fight against religion

and/or tradition as such does not seem to be either right or rational.

There is much in our culture, tradition and classical literature which is glorious, and much that is outmoded, irrational, inequitable and irrelevant. We must critically appropriate the former, and fight with all our might against the latter. I would, for example, bring under the former the Nalopakhyaṇa and Savitryupakhyaṇa of the *Mahabharata*, Valmiki's 'great story of Sita' (Sitayah charitām mahat)



Prof. K. Satchidananda Murty delivering the convocation address

and Ritadhvaja-Madalasa story of the *Markandeya Purana* under the former, while I would include in the latter category the story in the same Purana of that stupid pativrata wife of the leper Kaushika of Pratiṣṭhanapura, whom she daily used to carry on her shoulders to the house of a prostitute. As in other cultures, in ours too woman has been "empowered" as well as "enslaved", deified as well as chatised.

One of the glories of Indian culture is its formulation of the Pativratya-Ekapatnivrata Ideal. A

Pativrata is not a slave or sex-object. She is exclusively devoted to her husband (ananyabhava), is totally involved in him and his welfare (anuraktachetas). She shares his happiness and unhappiness; her mind does not think of anyone else in his place. In whatever situation he may be he is dear and desirable to her. He is her closest friend and nearest relative, as well as her collaborator in achieving dharma. She would never desire anything in which she cannot jointly participate along with him. But the necessary concomitant of this Ideal is that of Ekapatnivrata. He who follows the latter has firm and steadfast love for his wife (sthiranuraga) and would, moreover, care for her as a parent would for his offspring. She would be his companion for life and dearer to him than his own life (pranaih priyatara, pranabhyopigariyasi). Without her he would find even heaven with its nymphs desolate. For him none else including his own parents would be dearer than her. He would not even think of enjoying any woman excepting his own wife; and if she were to predecease him he would remain chaste. (Tāmrate...aham na bhokshye yoshitam kamcit, declared Ritadhvaja.) Sita of Valmiki claimed that Rama loved no one else more than her; nay, he did not even love anyone else equally ! (*Ramayana*, *Sundara Kanda*, XXXVI, 30.) According to Tiruvalluvar, Ekapatnivrata exemplifies 'noble manliness', 'real heroism' and perfect virtue.

According to the *Mahabharata* the wife is the husband's best friend (Suhridam vara) ordained by destiny (bharya daivakritah sakha). It further says : one's dear wife is greater than one's life (pranabhyopigariyasi); she should be protected like one's mother and respected like one's elder sister. This Itihasa also asserts that as is oneself so is one's

son, and a daughter is equal to the son. (Putrena duhita sama). Everything must be given to a daughter; those parents, brothers, in-laws etc., who desire prosperity should treat girls/women with respect and affection. (pujyah lalayitavyah ca.) Women are indeed Lakshmis; he who desires prosperity must honour them. (Sriyah etah striyo nama, satkarya bhutimicchata.) (*Mahabharata*, Anusasana-parva, 45, 46.) At one place this work says with approval that Manu did not applaud the practice of women living with husbands whom they disliked; they can remarry, it implies. (same parva.)

Of course, the Fifth Veda has sections/passages which say that there is nothing more sinful than women, and that they are the root of all evil. (*Mahabharata*, Anusasana Parva, ch. 38.) A number of religious tracts and teachers have said that it is Kamini-Kanchana (woman and gold) which lead men astray, and that men should always avoid them. This is part of our "inglorious tradition", as are the caste system, untouchability, etc. But there is no culture or tradition in which there is not something "inglorious".

The composite ideal of Ekapatnivrata-Pativratya is nothing but the institution of marriage in which both the partners practise lifelong mutual mental and physical fidelity. I do not know why so great a thinker and poet with an encyclopaedic knowledge as Goethe declared "marriage is the greatest achievement of European culture", and why so eminent a scholar and well-read man as Denis de Rougemont has claimed marriage as "the institution most typical of European morals"! Maybe Goethe did not come across characters other than those like Dushyanta in the Indian literature he was acquainted with,

and de Rougemont knew well only about Tantrics from Eliade's work. While the classical Indian and European-Christian cultures acclaimed stable marriage as the ideal man-woman relationship, it is recognized as such by the Marxists also. "Monogamic unions", according to Engels, "provide the most sensible relation between the sexes in a society that has been emancipated from the restraint of money and class". Lenin strongly disapproved promiscuity and sexual lawlessness terming them "petit bourgeois". (de Rougemont, *Love in the Western World*, Rev. & Aug. Edn. with postscript, Princeton, 1983, pp. 287-3, 289.) Bela Kopeczi, a distinguished scholar who is also the Hungarian Minister of Culture and Education has pointed out, on the basis of empirical surveys, that the Family was identified as the preeminent value by Europeans in both the socialist and non-socialist countries, (his article in *The New Hungarian Quarterly*, Vol XXVII, No. 104, 1986.) It is not surprising that Gorbachev and his colleagues as well as some American leaders are emphasizing ethics and values, especially, family integrity.

Before it came into contact with Europe, India never knew fatal passionate love ever unfulfilled—such as that found in the Tristan and Isolde romance, but given its final form in Wagner's *Tristan und Isolde*. It knew fickle sensuality of the type which found its most effective expression in Mozart's *Don Giovanni*. But it always condemned it. Its great ideal has been that embodied in upakhyanas like Nala-Damayanti and Savitri-Satyavan and Valmiki's great Sita charita. According to it, as a Sangam poet said, the spouses would have two bodhis, but one soul and life. Let us not abandon it till a better one is found.

Present thinking in the world has gone much beyond what prevailed when Simone de Beauvoir published her *The Second Sex* and Betty Friedan her *The Feminine Mystique*. As you will admit, the first was truly the first feminist and with the second began Women's Liberation Movement in USA. There is no one dimensional oppression in marriage as de Beauvoir thought, if marriage is understood in the way indicated above. In her very recent second book *The Second Stage*, Friedan is pleading for "the articulation of the values of family and life itself", and now thinks feminism does not require the denial of difference between women and men. Germaine Greer is doing her best to show that old Eastern societies have not marginalised women, that feminist movements (through competition with men, etc.) and governments (through family planning, etc.) might lead to weakening of family ties, loneliness of women, rejection of children, and destruction of the balance among individual needs, rights and freedom, societal natural laws and the future of civilization. (*Sex and Identity*) Lastly, the myth of women ever having had a monopoly on compassion and peace has been effectively exploded by Jean Bethke Elshtain (*Women and War*).

It is heartening to remember that: (a) Our Sixth Five Year Plan has a chapter on "Women and Development" and the HRD Ministry has drawn up a new Perspective Plan for Women, 1988-2000, and sent it to the Planning Commission. (b) A National Committee on Women with the Prime Minister at its head has been constituted by the government. (c) The University Grants Commission has activated implementation of its programme of the Development of Women's Studies in Universities and Colleges. □

Higher Education Relevance and Quality

The Department of Economics of the University of Bombay recently organised a Symposium on "Higher Education in the Context of the New Education Policy" under the auspices of Department's University Leadership Programme and Economics of Education Unit. The Symposium was conducted in three Sessions: (i) Planning and Administration of Higher Education, (ii) Analytical Teaching of Indian Economy and (iii) Role of Teacher in the Context of the New Education Policy. Over 40 teachers in Economics from the colleges University actively participated in the discussions.

In their paper 'Planning and Administration of Higher Education: The Challenge of Change' R. Bhargava and K. K. Bilchandran analysed the apportionment of higher educational expenditure between different objects or items from the point of view of qualitative improvement. The deleterious effect of the current pattern of expenditure on real academic activities was highlighted. It was also observed that higher education in India was reeling under the mounting pressure of deepening resource crunch and a threatening consequence of this over time appeared to be stifling of objective or independent knowledge-generating activities especially in universities. The allocations for academic activities like teaching, equipment and appliances, laboratories, libraries, etc. have naturally to be high, but these have declined over the years.

Jacob P. Verghese in his paper 'Administration of Higher Education and the idea of Autonomy' pointed out the possible dangers of

granting autonomy to a few colleges on the basis of their academic reputation and sound financial position, leaving their less fortunate sister colleges to doom. He suggested instead small autonomous 'clusters' of colleges, outstanding and poor together, in a particular locality of a big university. He also proposed state level counterpart of the UGC to supervise and regulate these clusters.

The second session concentrated on two papers: (a) 'Analytical Approach to Teaching Indian Economy at B.A. and M.A. levels' by S.P. Padgaonkar, and (b) 'Teaching of the Indian Economy Analytically' by A.M. Pethe and A.V. Karnik. While Padgaonkar's paper examined the need for an analytical approach to teaching Indian Economy, Pethe and Karnik's paper contended with an operational definition of 'analytical teaching'. It was pointed out that a change to analytical teaching of Indian Economy will require a concomitant strengthening of the quantitative apparatus of students, preparation of teaching materials, changes in evaluation procedures, etc.

Session III took up papers on: (a) 'The Role of Teachers in the Context of the New Education Policy' by S.M. Israney and I.H. Bagalkot, and (b) 'Role of a Teacher and the New Education Policy' by (Mrs.) S.A. Nagpurkar. Israney and Bagalkot emphasised the need for active steps to upgrade the teaching learning process with a proper measure of research guided by suitable methods of teaching. They felt there was scope under the New Education Policy for creating a conducive atmosphere, with

proper incentives, for better learning and teaching. Job satisfaction is more important than anything else, and all efforts should be made to reduce intellectual alienation and narrow the gap between education and knowledge, and between educators and qualifiers, they stressed.

(Mrs.) Nagpurkar drew attention to the role of women who were coming forward in greater numbers to join the teaching profession. She also emphasised the need for better interaction among teachers through Seminars, debates, discussions, etc. Teachers' associations should take active interest in faculty development programmes and not depend too much on government agencies for this purpose, she observed.

The Symposium was marked by lively discussion and the deliberations constitute an excellent agenda for starting of further action in making the teaching learning process of Economic Science at the University level both creative and contributive.

Superconductivity at PG Level

Prof. Yash Pal, Chairman, University Grants Commission (UGC) said in New Delhi that the Commission is considering introduction of a special paper on High Temperature Superconductivity (HTSC) at the postgraduate level as well as making changes in the curricula of the MSc and BSc students. Besides the UGC is also thinking of setting up an interuniversity centre for research in superconductivity. He was addressing a meeting of eminent scientists and coordinators of superconductivity programmes of over 25 universities of the country where some research is presently going on.

Prof. Yashpal said besides changes in curricula at the MSc and BSc level, the universities should also make an effort at planning new experiments for the physics and chemistry students which would not only interest but involve them in this area of research. He said the universities must think of setting up of special facilities or adding to the existing ones which would in turn help other institutions which did not have such facilities.

Prof. Narlikar of the National Physical Laboratory said some of the proposals for research that were made by various universities were excellent. He referred to the IIT Kharagpur, Pune, Banaras, Rajasthan, Goa and Madras universities where interesting work was going on. He said the presentations justified that the work must be encouraged and suggested that the university people visit some of the national laboratories and develop interaction to keep abreast of the latest research going on.

The UGC has so far supported research in 27 universities to the tune of Rs. 220 lakh besides constituting a standing committee on superconductivity.

Participants in the meeting included Prof. C.N.R. Rao, Prof. R. Vijayaraghavan, Prof. K.L. Chopra, Dr. A.V. Narlikar and Prof. A.P.B. Sinha.

Multidisciplinary Symposium on Gerontology

Jawaharlal Nehru University proposes to organise an All-India Symposium on Biological, Medical and Social Gerontology from December 19 to 22, 1988 at the School of Life Sciences at New Delhi to coincide with the IVth National Meeting of the Association of

Gerontology (India) (AGI). The Symposium will concentrate on the current researches (academic and applied) in the field of ageing (Gerontology-Senescence). Intended to make a positive attempt to integrate new knowledge about ageing and promote greater communication between the community of individuals engaged in various aspects of ageing research in the country, the symposium will focus on applications of emerging knowledge and understanding in the field of gerontology for the benefit of human society.

The AGI meeting would provide a forum where academic excellence and practical measures can complement each other, and will also make an attempt to make general public aware of the potential of ageing research to increase the span of healthy productive life and to minimize the social, biological and clinical problems of age (senescence).

Further details about the symposium can be had from Professor Rameshwar Singh, School of Life Sciences, Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067.

Orientation Course for Teachers

Prof. S.C. Dube, Chairman, M.P. Uchha Shiksha Anudan Ayog, inaugurated the first Orientation Course organised by the Academic Staff College of the Dr. Harisingh Gour Vishwavidyalaya at Sagar recently. He said that the Academic Staff Colleges had been conceptualised to provide a forum where teachers with different backgrounds and various age groups could interact with each other. He pleaded that such orientation programmes should not be reduced to one-man monologues. Instead, these should

help raise significant questions, evolve suitable alternatives, and place relevant issues in proper perspective.

He called upon the teachers to link theoretical knowledge with realities of life around them so that the educational system could become accountable and enriching. The objective of education, specially higher education, should not only be to impart knowledge but to make students think, he added. In this context, he suggested that audio-visual aids could also be employed.

Earlier, Prof. P.D. Hajela, Vice-Chancellor, who presided, pointed out the need to make universities research intensive. He regretted that bodies of higher learning are increasingly becoming lesson-imparting institutes. He hoped that the Academic Staff Colleges would orient the teachers to make research productive and socially meaningful.

Over 30 university and college teachers are attending this month-long course.

Courses in Atmospheric Sciences

The Center for Atmospheric Sciences (CAS) of the Indian Institute of Science, Bangalore offers post-graduate courses on Introduction to meteorology, Geophysical fluid dynamics, Radiative transfer in the atmosphere, Monsoon dynamics, Numerical weather prediction, Convection and clouds, Atmospheric turbulence; and Meteorological instruments.

It conducts post-M.Sc. courses in atmospheric sciences, leading to M.Sc. (Engg.) and Ph.D. degrees of the Indian Institute of Science. The following courses are also proposed to be offered: Atmospheric thermodynamics; General Circula-

tion and climate : observation and theory; Waves and instabilities in the atmosphere; Climate modelling; Large scale variability of oceans and atmosphere; Turbulent diffusion in the atmosphere; Statistical methods in meteorology; Stochastic modelling and prediction; and Satellite meteorology.

Problems of Development

The Western Regional Centre of the ICSSR and the Political Science Department of Goa University organized a two day seminar on "Problems of Development with special reference to Western India at the University Campus Bambolim. The Seminar discussed themes ranging from the concept and theories of development to such macro themes as Bureaucracy and Development and Poverty Alleviation Programmes. Study of Village Development in Goa, Development of Scheduled Castes & Tribes in Goa, and the Employment Guarantee Scheme in Maharashtra. Prof. Adi H. Doctor, Head of Political Science Department of Goa University, directed the Seminar.

Pedagogical Perspectives on Literary Language

A 2-day seminar on 'Pedagogic Perspectives on Literary Language' was recently organised by Dakshina Bharat Hindi Prachar Sabha at Hyderabad. The purpose of the seminar was to propose the models of pedagogic perspectives of aesthetics aspect of the literary language.

Dr. C.B. Rawat, Professor of the P.G. Complex, revealed the problems of literary and non-literary languages while describing their contrasts. Prof. Vijendranarayana

Singh from the University of Hyderabad discussed the mutual relations of Aesthetics and Literary languages. Dr. K.K. Goswami from C.H.I., Delhi opined that it was not proper to state that language was merely a medium of literary language.

Prof. U.N. Singh of the University of Hyderabad stressed on the possibilities of literary planning by language planning. Prof. Ch. Rama Rao of Telugu University proposed that while teaching the literary language the ideological background should also be brought out.

Sri V. Anjaneya Sarma, Registrar of the P.G. complex, stressed the need of discovering various models of the pedagogical perspectives on literary language.

Festival of India Participants' Workshop

Department of Youth Affairs and Sports, Government of India will organise a two day Workshop on May 9-10, 1988 at the Youth Hostel Association of India, New Delhi Group Leaders and Participants in the Youth Programmes of the Festival of India held in the USSR have been invited to the Workshop.

Youth Programmes of the Festival of India were held at Moscow, Leningrad and Tashkent during July-September, 1987 in which about 500 youth contingent, including 108 university youth from 15 universities participated.

The participants at the Workshop would share their experiences and prepare their report at the end of the deliberations. A detailed report would be presented by Group Leaders of their respective groups. The Department has pre-

pared a questionnaire to facilitate collection of information from various participants

Gujarat Vidyapith Herald's Literacy Campaign

Adult Literacy Resource Centre of the Gujarat Vidyapith has launched a 'Literacy Campaign' with a target of covering 5 lakh illiterate adults of 15-35 age group through active involvement of 1000 voluntary agencies and one lakh volunteers. The campaign named 'Saksharata Abhiyan' will last from May 1 to 15th June, 1988. Every day each volunteer will go to the house of five illiterates and help them learn themselves through literacy kits. Five lakh literacy kits have been printed for them and are being delivered to 1000 villages. Realising the urgency of evolving low-cost reading material, the Gujarat Vidyapith have developed 25 lesson literacy kits of 25 loose sheets with inbuilt exercises. This costs only Rs 2 per kit.

The campaign will be followed up by opening 1500 Jan Shikshan Centres in 1000 villages that participate in Saksharata Abhiyan.

Transportation Engineering Centre

Ministry of Human Resource Development, Govt. of India, has sanctioned a grant of Rs 10 lacs for setting up a Centre in Transportation Engineering at Thapar Institute of Engineering and Technology, Patiala. Preparations are afoot to set up the Centre. The Centre will be expected to develop manpower and conduct research in the area of Transportation Engineering.

Horticultural Development in Marathwada Region

The Marathwada Agricultural University, Parbhani organised, in collaboration with the Hexamar Research and Development Foundation, Bombay, a seminar on Horticultural Development in Marathwada Region on 1-2 April, 1988 at Fruit Research Station, Himayat Bagh, Aurangabad. The objective of the seminar was to identify the problems of Horticultural Development of the region and to formulate a strategy of horticultural research and development. Dr. K.L. Chadha, Deputy Director General, Horticulture, I.C.A.R., New Delhi, inaugurated the seminar while Dr. P.V. Salvi, Vice-Chancellor, presided.

Dr. K.L. Chadha, in his inaugural address, emphasised the need of research in horticultural crops as good potential existed in the region. He also assured financial support from I.C.A.R. Dr. P.V. Salvi observed that the region had very good climate, soils and local plant types available for development of the region. He emphasised the need of immediate research on survey of local mango types available in the region and strengthening of the nursery activity for the supply of plant material on large scale to the cultivators of Marathwada.

Seven lead papers on fruit growing, vegetables, floriculture, fruit and vegetable preservation, Dryland Horticulture, Nursery and Medicinal Plants were presented at the seminar which was attended by over 300 delegates from Andhra Pradesh, Karnataka and agricultural universities of the state.

Industrial Uses of Sorghum

The College of Agricultural Technology of the Marathwada Agricultural University has conducted research on sorghum processing to produce value added industrial products. A high quality starch can be produced from hybrid sorghum and the sorghum starch can be converted to sweeteners like liquid glucose. I.C.A.R. sponsored a scheme on malting of sorghum. Under the scheme the process has been standardised for malt production and utilization of malt in weaning foods, bakery products and beer.

Processes have also been developed for production of sorghum flakes and sorghum pops for use in snack industry. Pearled polished sorghum can be utilized in production of various sorghum products.

Sports News

Maulana Azad Trophy for Guru Nanak Varsity

Mr. R. Venkataraman, President of India, awarded the "MAULANA ABUL KALAM AZAD TROPHY" to the Guru Nanak Dev University, Amritsar for the year 1986-87 on April 19, 1988. Mr. G.S. Randhawa, Vice-Chancellor of the University received the coveted trophy on behalf of distinguished sportsmen/sportswomen of the University. Guru Nanak Dev University has won this trophy nine times.

Maulana Abul Kalam Azad Trophy, the highest sports award in India, was instituted by the Ministry of Education, Government

The Indian Council of Agricultural Research (ICAR) has sanctioned to the Kerala Agricultural University a research project on 'Standardisation of tissue/apical meristem culture techniques in horticultural crops of Kerala', with assistance from the International Co-operation and Development, USDA. The Project, with a total outlay of Rs. 15.661 lakhs for a period of three years, will be implemented at the Department of Horticulture, College of Agriculture, Vellayani. Dr. S. Ramachandran Nair, Professor and Head, Department of Horticulture and Dr. N. Mohanakumaran, Associate Director of Research (Southern Region) will be the Principal Investigators. Under the project, a tissue culture laboratory will be established in order to standardise micropropagation techniques in cashew and nutmeg.

of India in 1956-57 and is awarded each year by the President of India to the Vice-Chancellor of that University which attains maximum points in Inter-University, National and International competitions.

During the year 1986-87, the Guru Nanak Dev University won seven All India Inter-University Championships in Gymnastics (Men), Cross Country (Women), Weight Lifting, Hockey (Women), Kabaddi (Women), Kabaddi (Men) and Best Physique. It was runners-up in six disciplines in Cross-Country (Men), Athletics (Women), Basketball (Women) and Football (Men) and was third in Wrestling and Kho-Kho (Women).

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.



A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

PHYSICAL SCIENCES

Mathematics

1. M. Bra. Piwan Kumar *Distribution theory* BHU Dr R. S. Pathak Department of Mathematics Banaras Hindu University Varanasi

2. Rajoriva Vinod Kumar *Some results in the fixed point theory* HS Gour Dr R. K. Jain Department of Mathematics Dr Hari Singh Gour Vishwavidyalaya Sagar

Statistics

1. Singh Khundum Kumirchand *The applications of neighbour type designs their analysis and methods of constructions* Devi Ahilya Dr Braagandas Prof. Ind. Heid School of Statistics Vigyan Bhawan Khandwa Road Indore.

Physics

1. Awana, Veer Pal Singh *Interfacial phenomena in liquid crystals* BHU Prof. Y. Singh Department of Physics Banaras Hindu University, Varanasi

2. Bose, Subrata *Studies on fibre optics and microstrip antenna* BHU Prof. K. K. Dey, Department of Physics Banaras Hindu University, Varanasi

3. Chandra Bhushan *Density functional theory of free-*

zing" BHU Prof. Y. Singh Department of Physics, Banaras Hindu University Varanasi

4. Jaya Raju M. Y. *Study of some metastable alloy phases produced by rapid solidification* Devi Ahilya Dr. Ajay Gupta Reader School of Physics Vigyan Bhawan Indore and Dr. K. Rama Reddy Prof. Department of Physics Osmania University Hyderabad

5. Kalyanasundaram V. N. *Experimental high energy physics* BHU Prof. S. K. Tuli Department of Physics Banaras Hindu University Varanasi

6. Lahiri Tripti *Interface properties of Si-SiO₂ system* BHU Prof. R. S. Srivastava Department of Physics Banaras Hindu University Varanasi

7. Mehta Subhash Chandra *Far infrared spectroscopic studies of some rare earths and their compounds* Devi Ahilya Dr. S. N. Gupta Prof. Department of Physics Vikram University Ujjain

8. Mohan Das M. V. *Solidification composites* Kerala Dr. Elizabeth Roschen Sankumar Regional Research Laboratory Pappanamcode Trivandrum

9. Nagar Vivek Chandra *Phase transition and interfacial phenomena in liquid crystals* BHU Dr. Shri Singh Department of Physics Banaras Hindu University Varanasi

10. Pandey Shreekanth Tribhuvan Nath *Some studies on determination of the structural parameters from XFS* Devi Ahilya Dr. K. P. Joshi Prof. Department of Physics, Vigyan Bhawan Indore

11. Prasad R. G. Korrappa Chandra Sekhara Varma *Phase*

transition in liquid crystals. BHU. Prof. Y. Singh, Department of Physics, Banaras Hindu University, Varanasi.

12. Ramesh, Gandham. *Study of materials under low temperature.* BHU. Prof. O.N. Srivastava, Department of Physics, Banaras Hindu University, Varanasi.

13. Ranveer. *Semi-conductor electrolyte interface and solar energy conversion.* BHU. Prof. S. Chandra, Department of Physics, Banaras Hindu University, Varanasi.

14. Sabitha, Pagadala. *Synthesis, characterisation and stability of amorphous materials.* BHU. Dr. R.S. Tiwari, Department of Physics, Banaras Hindu University, Varanasi.

15. Safdar—Habibi. *Study of stability and properties of some transition metal metalloid (TM-M) metallic glasses.* Devi Ahilya. Dr. Ajay Gupta, Reader, School of Physics, Vigyan Bhawan, Indore.

16. Sharma, R.K. *Studies on mercury cadmium telluride.* BHU. Dr. B.B. Sharma, Solid State Physics Laboratory, Lucknow Road, Delhi and Prof. S. Chandra, Department of Physics, Banaras Hindu University, Varanasi.

17. Singh, Arun Kumar. *Atomic vibrations in hexagonal transition metals.* BHU. Dr. S.S. Kushwaha, Department of Physics, Banaras Hindu University, Varanasi.

18. Singh, Veer Pal. *A study regarding charged particle-atom (molecule) collisions.* BHU. Dr. D.N. Tripathi, Department of Physics, Banaras Hindu University, Varanasi.

19. Srivastava, Rajendra. *Studies on biomolecular structure.* BHU. Dr. P.C. Mishra, Department of Physics, Banaras Hindu University, Varanasi.

20. Ullas, G. *Molecular spectroscopy.* BHU. Dr. S.B. Rai, Department of Physics, Banaras Hindu University, Varanasi.

21. Verma, Kiran Kumar. *Investigation of energy materials.* BHU. Dr. R.G. Tiwari, Department of Physics, Banaras Hindu University, Varanasi and Prof. O.N. Srivastava, Department of Physics, Banaras Hindu University, Varanasi.

Chemistry

1. George, Santhi. *Chemistry of organic eutectic and addition complexes.* BHU. Dr. U.S. Rai, Department of Chemistry, Banaras Hindu University, Varanasi.

Earth Sciences

1. Mishra, Devesh Chandra. *Micropalaeontology.* BHU. Dr. Jagdish Pandey, Chief Geologist, Oil and Natural Gas Commission, Dehradun and Prof. M.S. Srinivasan, Department of Geology, Banaras Hindu University, Varanasi.

2. Mukherjee, Jiteswar. *Petrology and economic aspects of the pegmatites and associated rocks of pegmatites, Bihar, India.* BHU. Dr. Arup Deb, Department of Geology, Banaras Hindu University, Varanasi.

3. Singh, Pramod. *Invertebrate palaeontology and stratigraphy.* BHU. Dr. A.K. Jaitly, Department of Geology, Banaras Hindu University, Varanasi.

4. Singh, Ram Autar. *Structure and tectonics.* BHU. Dr. V.K. Gairola, Department of Geology, Banaras Hindu University, Varanasi.

5. Verma, Hargun. *Invertebrate palaeontology and stratigraphy.* BHU. Dr. A.K. Jaitly, Department of Geology, Banaras Hindu University, Varanasi.

Engineering & Technology

1. Anoop Kumar. *Fluid flow and heat transfer.* BHU. Dr. S.N. Gupta, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

2. Chaurasia, Bharu Shanker. *Ion theory.* BHU. Prof. Ravi Prakash, Department of Bio-Medical Engineering, Banaras Hindu University, Varanasi.

3. Ganguly, Alack Kumar. *Electrical power transmission and distribution.* BHU. Dr. A.K. Mitra, Director (R & D), Electricity Research Institute, UP State Electricity Board, Lucknow and Prof. V.S. Subba Rao, Department of Electrical Engineering, Banaras Hindu University, Varanasi.

4. Gupta, Ajai Kumar. *Vibration of geared systems.* BHU. Prof. S. Kishore, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

5. Mallick, M.H. *Study of holistic approach to production management and human resource interface for sustained growth in Indian engineering industry.* Delhi. Prof. Rajnish Prakash, Department of Mechanical Engineering, Delhi College of Engineering, Delhi.

6. Mehta, Arun Shanker. *Squeeze casting of aluminum alloys.* BHU. Dr. B. Chatterji, Deputy General Manager, Foundry and Forge Division, HAL, Bangalore and Prof. P. Ramachandra Rao, Department of Materials Science, Banaras Hindu University, Varanasi.

7. Mehta, Sujatha. *Deformation behaviour of aluminum alloys.* BHU. Dr. P.S. Babu Ramani, Manager, Hindustan Aeronautics Limited, Bangalore and Prof. V.V. Kutumba Rao, Department of Metallurgical Engineering, Banaras Hindu University, Varanasi.

8. Paliwal, Hirendra Kumar. *Fluid flow and heat transfer.* BHU. Dr. S.N. Gupta, Department of Mechanical Engineering, Banaras Hindu University, Varanasi.

9. Patel, Arun Kumar. *Photo chemical reaction process.* BHU. Dr. P.N. Tewari, Department of Chemical Engineering, Banaras Hindu University, Varanasi.

10. Radhakrishnan, S. *Biomedical telemetry.* BHU. Prof. Ravi Prakash, Department of Biomedical Engineering, Banaras Hindu University, Varanasi.

11. Rajagopalachary, T. *Modelling of metal working processes.* BHU. Prof. V.V. Kutumba Rao, Department of Metallurgical Engineering, Banaras Hindu University, Varanasi.

12. Ranganath, S. *Preparation and evaluation of novel composites.* BAU. Dr. J. Subramanyam, Defence Metallurgical Research Laboratory, Hyderabad and Prof. V.B. Tare, Department of Metallurgical Engineering, Banaras Hindu University, Varanasi.

13. Singh, Girish Kumar. *Optimum design of 3-phase armature wdg. for effective utilisation of supply wave form.* BHU. Prof. M. Bhattacharya, Department of Electrical Engineering, Banaras Hindu University, Varanasi.

14. Singh, Vinod Kumar. *Adaptive control strategy in power-frequency control design.* BHU. Dr. D.S. Chauhan, Department of Electrical Engineering, Banaras Hindu University, Varanasi.

15. Singhal, Hirendra. *Structural Engineering.* BHU. Dr. Ramji Agrawal, Department of Civil Engineering, Banaras Hindu University, Varanasi.

16. Sinha, Shrish Kumar. *Mathematical modelling and computer analysis of EHV and UHV transmission grounding systems.* BHU. Dr. D.S. Chauhan, Department of Electrical Engineering, Banaras Hindu University, Varanasi.

17. Sinha, Sunil Kumar. *On-line system identification methods*. BHU, Dr. T. Nagaraja, Department of Electrical Engineering, Banaras Hindu University, Varanasi.

18. Syed Akhlaq Ahmad. *Absorption of SO₂ gas in reacting and non-reacting*. BHU, Dr. V. Krishnan, Department of Chemical Engineering, Banaras Hindu University, Varanasi.

BIOLOGICAL SCIENCES

Biochemistry

1. Agrawal, Sunita. *Molecular mechanism of various phenomena associated with histone H1*. BHU, Dr. Z. Ali, Department of Biochemistry, Banaras Hindu University, Varanasi.

2. Bhalerao, Anjali. *Stress on immunity*. BHU, Prof. S. S. Dubey, Department of Biochemistry, Banaras Hindu University, Varanasi and Prof. P. C. Sen, Department of Microbiology, Banaras Hindu University, Varanasi.

3. Dash, Debabrata. *Biochemical changes in platelets in hyper aggregable condition like ischaemic heart disease*. BHU, Dr. G. N. K. Rao, Department of Biochemistry, Banaras Hindu University, Varanasi.

4. De, Amitabha. *Physico chemical studies of ribosome structure and function*. BHU, Prof. M. Chakravorty, Department of Biochemistry, Banaras Hindu University, Varanasi.

5. Dev, D. Benda Nath. *Mechanism of translocation in protein synthesis*. BHU, Prof. M. Chakravorty, Department of Biochemistry, Banaras Hindu University, Varanasi.

6. Mukherjee, Nivedita. *Use of recombinant DNA techniques in the study of host virus interaction*. BHU, Prof. M. Chakravorty, Department of Biochemistry, Banaras Hindu University, Varanasi.

7. Pandey, Bindu. *Molecular characterization of bacteriophage MB78*. BHU, Prof. M. Chakravorty, Department of Biochemistry, Banaras Hindu University, Varanasi.

8. Sane, Grace, Anant. *Cloning, sequencing and expression of genes of bacteriophage MB78*. BHU, Prof. M. Chakravorty, Department of Biochemistry, Banaras Hindu University, Varanasi.

9. Srivastava, Supta. *Effect of use of Terminalia arjuna on lipid profile and related enzymes in ischaemic heart disease*. BHU, Prof. S. S. Dubey, Department of Biochemistry and Medicine, Banaras Hindu University, Varanasi; Prof. P. N. Somani, Department of Biochemistry and Medicine, Banaras Hindu University, Varanasi and Prof. K. N. Udapa, Department of Biochemistry and Medicine, Banaras Hindu University, Varanasi.

10. Tikoo, Kul Bhushan. *Effect of sex hormones on chromatin structure in situ*. BHU, Dr. Zileadar Ali, Department of Biochemistry, Banaras Hindu University, Varanasi.

Botany

1. John, T. *Evaluation of the genotoxic potential and cytogenetic effects of spices and condiments*. Kerala, Dr. Susan Abraham, Prof. Department of Botany, University of Kerala, Trivandrum.

Zoology

1. Chandra Letha, K. *Studies on the aphids of Trivandrum District*. Kerala, Dr. N. R. Prabhoo Prof., Department of Zoology, University of Kerala, Trivandrum.

2. Das Aparup. *Population genetics of Drosophila*. BHU, Dr. B. N. Singh, Department of Zoology, Banaras Hindu University, Varanasi.

3. Mutkar, S. M. *Pest complex of soybean; Influence of crop sowing time on the major pests under treated and untreated conditions and biology of girdle beetle*. Devi Ahilya, Dr. S. R. Deobhakta, Asstt Prof. Holkar Science College, Indore.

4. Singh, Arun Kumar. *Mammalian reproduction*. BHU, Prof. C. J. Dominic, Department of Zoology, Banaras Hindu University, Varanasi.

5. Singh, Rakesh Kumar. *Cell biology and immunology*. BHU, Dr. A. Sodhi, Department of Zoology, Banaras Hindu University, Varanasi.

6. Vyas, Harsh. *Studies on the succession of pest complex of fruit trees and ornamental plants around Indore*. Devi Ahilya, Dr. S. R. Deobhakta, Asstt Prof. Holkar Science College, Indore.

Medical Sciences

1. Abbas, Wafa Rahmetalla. *Role of Gaba in experimental peptic ulcerations*. BHU, Dr. R. K. Goel, Department of Pharmacology, Banaras Hindu University, Varanasi and Prof. S. K. Bhattacharya, Department of Pharmacology, Banaras Hindu University, Varanasi.

2. Dikshit, Badri Nath. *Analysis of ICDS programme impact on birth and child survival upto 6 yrs. of age in rural Varanasi*. BHU, Prof. S. D. Gaur, Department of Preventive and Social Medicine, Banaras Hindu University, Varanasi.

3. Mohammad Aslam. *Phytochemical and pharmacological studies on some Indian medicinal plants*. BHU, Dr. V. K. Agarwal, Department of Pharmacology, Banaras Hindu University, Varanasi and Dr. R. K. Goel, Department of Pharmacology, Banaras Hindu University, Varanasi.

4. Pandey, Mahendra Nath. *Samaj shastriya drishtikon mein Ganga pradushan ka adhyayan*. BHU, Prof. G. P. Dubey, Department of Basic Principles, Banaras Hindu University, Varanasi and Dr. J. D. Gode, Director, Institute of Medical Science, Banaras Hindu University, Varanasi.

5. Ravinder Kaur. *Bioactive terpenoids*. BHU, Prof. S. Ghosal, Department of Pharmaceutics, Banaras Hindu University, Varanasi.

6. Sahiwal, Asheema. *Evaluation of integrated child development in urban area of Varanasi District*. BHU, Dr. (Mrs) P. Kaur, Department of Preventive and Social Medicine, Banaras Hindu University, Varanasi.

7. Shanthi, A. *Studies on shilajit*. BHU, Prof. S. Ghosal, Department of Pharmaceutics, Banaras Hindu University, Varanasi.

ARTICLES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Goswami, Sudipkumar. *Scattering of water waves in the presence of obstacles and associated mathematical methods*. Calcutta.
2. Jacob, M.J. *Probabilistic analysis of some queueing and inventory models*. CUST. Dr. A. Krishnamoorthy, Prof. Department of Mathematics and Statistics, Cochin University of Science and Technology, Cochin.
3. Lalan Singh. *A study of composition operators I & II*. BHU. Dr. Nand Lal, Reader, Department of Mathematics, Banaras Hindu University, Varanasi.
4. Ramachandran Nair, V.K. *Queueing models with rest to the server after serving a random number of units*. CUST Dr. A. Krishnamoorthy, Prof. Department of Mathematics and Statistics, Cochin University of Science and Technology, Cochin.
5. Samanta, Bibhaschandra. *Studies on elastic stability*. Calcutta.
6. Yadav, Shree Kcm. *Some results on fractional and multiple objective programming problems*. BHU. Dr. R.N. Mukherjee, Reader, Department of Mathematics, Banaras Hindu University, Varanasi.

Physics

1. Bandyopadhyay, Aditya Kumar. *Studies on fault-tolerant sequential machines*. Calcutta.
2. Bandyopadhyay, Rabin. *Studies on some aspects of non-perturbative field theory and chiral anomalies*. Calcutta.
3. Chandra Mohan, D. *Studies on some compound semiconductor*. Madurai.
4. Garg, Arun Kumar. *Electrical properties of tellurium films and tellurium-silicon heterojunction*. Delhi.
5. Ghosh, Banasri. *Some aspects of harmonic oscillators in 1-1 dimensions, using model and phase transition phenomena*. Calcutta.
6. Hazarika, S. *Some experimental studies on lightning and VLF atmospherics*. Roorkee.
7. Khan, Iqbal Ahmad. *Electronegativity and chemical shift of X-ray absorption edges*. Bhopal. Dr. M. Hussain, Jamia Millia, New Delhi.
8. Mishra, Veena. *Some studies on representations of non-compact exceptional and Z_2 grades lie groups*. Delhi.
9. Muneera, C.I. *Oxidation studies of thin films of tin at room temperature*. Kerala. Dr. V. Unnikrishnan Nair, Reader, Department of Physics, University of Kerala, Kariavattom.
10. Narayana Murthy, K.P. *Fluctuation phenomena in model non-equilibrium systems*. Hyderabad. Prof. S. Datta-gupta, Reader, Department of Physics, University of Hyderabad, Hyderabad.
11. Ramachandra, Vullapalli. *Studies on spiral and V-shaped antenna arrays*. BHU. Prof. K.K. Dey, Reader, Department of Physics, Banaras Hindu University, Varanasi.

12. Ravindra Kumar. *Immunophysical and bioreological aspects of hanseniasis using vibrational, magnetic resonance, absorption and emission spectroscopic techniques*. Delhi.

13. Sotharami Reddy, Byreddy. *Experimental investigations on photo-electric cross sections in the energy region of absorption edges*. Andhra.

14. Singh, Ved Prakash. *Some studies on loaded helical slow-wave structures of a travelling wave tube*. BHU. Dr. S.K. Tolapadi, Reader, Department of Physics, Banaras Hindu University, Varanasi.

15. Venu Gopal Reddy, K. *Experimental investigation of Sebaed crystalline and amorphous systems*. Hyderabad. Prof. A.K. Bharnagar, Head, Department of Physics, University of Hyderabad, Hyderabad.

16. Vikram Kumar, B.T. *A study of the equatorial ionospheric irregularities using V.H.F. backscatter and H.F. phase coherent radar techniques*. Kerala. Dr. P. Balarama Rao, Prof. Department of Physics, University of Kerala, Kariavattom.

Chemistry

1. Bhatt, K.N. *Studies on drug potentials*. Bhavnagar. Dr. P.B. Trivedi, Reader, Department of Chemistry, Bhavnagar University, Bhavnagar.

2. Bhatt, S.D. *Studies on latex and utilization of biomass from laticiferous plants*. Bhavnagar. Dr. K.S. Rao.

3. Chauhan, Ashok Kumar. *Chemical investigation of some high altitude plants having antiepileptic activity*. Rajasthan. Dr. B.C. Joshi, Prof. Department of Chemistry, University of Rajasthan, Jaipur.

4. Dave, A.G. *Studies in heterocyclic compounds: Reactions of 4-hydroxy coumarins*. Saurashtra. Dr. V.M. Thakor.

5. Dubey, Rajesh. *Studies of serum proteins, amino acids, cholesterol and blood sugar, of normal individuals and subjects with disturbed carbohydrate metabolism in relation to Landsteiner's A+B—O blood groups*. Rohilkhand. Dr. R.K. Agarwal, Bareilly College, Bareilly.

6. Goyal, Mahendra Kumar. *Fluorine containing bioactive heterocycles with special reference to hydantoins and oxazoles*. Rajasthan. Prof. K.C. Joshi, Department of Chemistry, University of Rajasthan, Jaipur.

7. Gupta, Basant. *Chemical studies for commercial methods of preparation, isolation and determination of organic compounds of perfumery and cosmetic importance*. Rohilkhand. Dr. R.K. Basila, Govt. Raza P.G. College, Rampur.

8. Jagadishwar Rao, S. *Synthesis of biologically active compounds: Long chain aliphatic alcohols and insect pheromones using thiophene as a chain extender*. Osmania.

9. Jhaaji, A.K. *Studies on the complexes of transition metals with macrocyclic ligands*. Roorkee.

10. Joshi, Yashodhara. *Synthesis of some novel dibenzodiazepine and dibenzothiazepine and studies of their metal complexes*. Rajasthan. Prof. B.C. Joshi, Department of Chemistry, University of Rajasthan, Jaipur.

11. Kapoor, Vijay Nandan *Studies on substituted dithiocarbamate metal complexes.* Rohilkhand Dr R C Agarwal, Hindu College, Moradabad
12. Kesava Rao, Chamalla. *Studies on seasonal variations in the important chemical constituents of some seaweeds and see water along the Saurashtra Coast* Bhavnagar Dr V K Indushekar
13. Krishnan, K. *Some aspects of thermal analysis* Kerala Prof P M Madhusudan, Head Department of Chemistry, Women's College, Trivandrum
14. Lakshmi Shantha K *Synthesis and characterization of poly vinyl oxo esters of long chain oxo acids* Osmania.
15. Lemtur, Aka *ESR and electrochemical studies on the oxidation products of some metalloporphyrins* NEHU, Prof J Subrahmaniam Reader Department of Chemistry North Eastern Hill University Shillong
16. Malhotra Sumita *Synthesis of some naturally occurring heterocyclic polyphenolics* Delhi
17. Manju Bala *Complex compounds of Schiff bases derived from polyheterocyclic amines* Banasthali Dr A I P Sinha, Prof and Head Department of Chemistry, Banasthali Vidyapeeth Rajasthan
18. Muralidhar Jalasutram. *Studies on blue peroxy chromic acid derivatives and adducts* Andhra
19. Murali Mohan K *Interaction of purines pyrimidines nucleosides with C S dichloromethioninepalladium (II) and II-allylpalladium (II) Chloride* Osmania
20. Ojha Satish Chandra *Proton transfer and metal association interactions of some heterocycles* Rohilkhand Dr B R Singh Sahu Jain College, Najibabad
21. Padhy Sasanka Sekhara *Some aspects of gamma radiolysis of aqueous solutions of vanadium nitrioltriacetate chelates* Delhi
22. Pushpakumari K N *Studies on lemongrass oil* CUST Dr P M A Vatakacheri Prof and Head Department of Applied Chemistry Cochin University of Science and Technology Cochin
23. Ramachandran P *Studies on anodes for electrochemical cells in electrowinning of metals* Madurai
24. Rama Krishna T Siva *Crystal chemistry of some azoquinone hydrazones and hydroxazopyridines* Hyderabad Dr Goutam R Desiraju
25. Rao M V *Studies on polymers* Saurashtra Dr (Mrs) H H Parekh Department of Chemistry Saurashtra University Rajkot
26. Sathipati *Investigations on mixed ligand complexes of the rare earth ions* Rohilkhand Dr Ram Nayan
27. Saikia D K *Studies on the sorptive properties of bed sediments of river Ganges and transport of some heavy metal ions* Roorkee
28. Saikia R *Studies on nucleophilic reactions of some O substituted oximes and related compounds* Roorkee
29. Sanghi, Sunil Kumar. *Analysis of certain pharmaceuticals by spectrophotometry and high performance liquid chromatography* Durgawati Dr D. D. Mishra, Prof and Head Department of Chemistry, Rani Durgawati Vishwavidyalaya Jabalpur
30. Sarangi, Chintamani *Studies on some catalysed and uncatalysed organic reactions* Berhampur Prof Subas C Pati Department of Chemistry Berhampur University Berhampur
31. Senapati, Manorama *Electron transfer reactions* Berhampur Dr. S N. Mahapatra Department of Chemistry Trinity University, 715 Stadium Drive, Texas 78284 USA
32. Sharma, Ashwani Kumar *Synthesis of analogs of luliberin (LH-RH) and melanostatin (MIF) containing β -dehydroamino acids and conformational studies on some model dehydropeptides.* Delhi
33. Singh, Indra Bhushan *Corrosion and passivation of metallic glasses* BHU Dr R S Chaudhary
34. Singh Padma *Corrosion of brass and its constituents in aquo organic solvent mixtures through polarization technique* BHU Prof R N Singh, Department of Applied Physics, Banaras Hindu University, Varanasi
35. Singh Vinod Kumar *Some investigations on corrosion passivity and pitting behaviour of austenitic stainless steels in alcohol H₂SO₄ mixtures* BHU Dr V B Singh
36. Subramaniam P *Linear free energy relationships in systems Oxidations of phenylmercaptoacetic acids by bromamine T potassium hexacyanoferrate (III) and sodium metaperiodate* Madurai
37. Syed Sirajul Islam—*Studies on immunochemically active polysaccharide of Shigella* Calcutta
38. Tripathy Pradeep Kumar *Studies in heterocycle using 2-oxa olin-5-ones as synthons* BHU Dr A K Mukherjee Reader Department of Chemistry Banaras Hindu University, Varanasi
39. Uma Sundari Pemmaraju *Synthesis of 1 phenylphthalene ligand lactones bis (pyridine) silver permanganate as a regioselective reagent* Andhra
40. Vaman Rao M *Syntheses of tetrahydropyran antibiotics from carbohydrates* Hyderabad Dr M Nagarajan
41. Vashishtha Vijay Kumar *Studies on the amino acid composition and feed efficiency of some leguminous seed protein*

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isolates. Rohilkhand. Dr. M. S. Mehra, Bareilly College, Bareilly.

42. Veena Kumari. *Synthesis and transformations of biological active compounds through organoborate and related reactions.* PAU.

43. Vijaya, Katragadda Devendra. *Analytical applications of some thiazine dyes as oxidimetric and redoximetric indicators.* Andhra.

44. Yadav, Bhoore Singh. *Chemical investigation on seed polysaccharide of Cassia alata (Dadmurda) seeds.* Rohilkhand. Dr. V. K. Jindal, Agra College, Agra.

Earth Sciences

1. Anand, Rajesh. *A contribution to the geology and geochemistry of the ophiolites and associated sediments in Dras-Kargil and adjoining areas of Ladakh (J & K).* Panjab.

2. Bandyopadhyay, Krishnaprasad. *Paleogene stratigraphy and larger foraminifera of Guwar-Nareda area, Kutch, Gujarat.* Calcutta.

3. Harinarayan, T. *Telluric and magnetotelluric field studies in parts of geothermal areas of Peninsular India.* ISM. Prof. R. K. Verma, Indian School of Mines, Dhanbad and Dr. S. V. S. Sarma, NGRI, Hyderabad.

4. Kurian, N P. *Wave height and spectral transformation in the shallow waters of Kerala coast and their prediction.* CUST. Dr. M. Baba, Scientist-in-charge, Regional Centre, for Earth Science Studies, Cochin University of Science and Technology, Cochin.

5. Lahiri, Amitabha. *Tectonic evolution of the Dltu super-group and associated rocks in Phulad-Deogarh region, Central Rajasthan.* Calcutta.

6. Somani, Raman Lal. *Fluid inclusion studies of fluorite and associated minerals from Chowki-chhapali and Mandokipal areas, Rajasthan.* Rajasthan. Dr. P. S. Ranawat, Department of Geology, University of Rajasthan, Jaipur.

7. Srinivas, M. *Studies on the petrology and engineering properties of the rocks around Hazurabad, Karimnagar District, A.P., Osmania*

8. Yadav, Kashi Nath Singh. *Computer modelling of seismic problems associated with hydrocarbons and coal.* BHU. Dr. Avadh Ram, Reader, Department of Geophysics, Banaras Hindu University, Varanasi.

9. Yugandhara Rao, Alhika. *Geology, geochemistry and genesis of Garbhani and Kaduru manjesh deposit of Vizianagaram District, Andhra Pradesh.* Andhra.

Engineering & Technology

1. Hanumantha Rao, Garapati. *Kinetic model discrimination and parameter estimation using computer aided design of sequential experiments.* Andhra

2. Sinha, Tapan Kumar. *The influence of microstructure on the flow and fracture behaviour of a nuclear pressure vessel steel.* Calcutta.

3. Srivastava, Vijay Shanker Prasad. *Dispatch algorithms synthesis.* JNU. Dr. R.G. Gupta, School of Computer and Systems Sciences, Jawaharlal Nehru University, New Delhi

4. Tomar, Dinesh Chandra. *Software project resource estimation: An integrated life cycle methodology.* JNU. Dr. R.G. Gupta, School of Computer and Systems Sciences, Jawaharlal Nehru University, New Delhi

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EDUCATION NEWS INDEX

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EDUCATIONAL PHILOSOPHY

Subramanyam, Ka Naa. Education sans philosophy. *Deccan Chronicle* 22 April, 1988.

Subramanyam, Ka Naa. Random thoughts on education. *The Times of India* 28 April, 1988.

EDUCATIONAL PSYCHOLOGY

Venkataraman Jaishree. A backward child needs care. *The Hindu* 12 April, 1988.

EDUCATIONAL SOCIOLOGY

BIGOTS VS SCHOLARS (ed). *The Hindustan Times* 30 April, 1988

Khan, M.Q. Orthodoxy and education. *The Times of India* 1 April, 1988.

EDUCATIONAL POLICY & PLANNING

✓Amrik Singh. The plus two muddle. *The Hindustan Times* 11 April, 1988

Hasan Suroor. Literacy mission: Colossal task. *The Hindu* 28 April, 1988

Jacob, Kuruvila K. A policy with a difference. *The Hindu* 26 April, 1988

John, E.J. Priorities in higher learning. *The Hindu* 26 April, 1988

EDUCATIONAL ADMINISTRATION

✓Amrik Singh. Commercialisation of education. *The Tribune* 6 April, 1988.

Choudhary, Kameshwar. A students' view of higher education. *The Times of India* 4 April, 1988.

Dasgupta, R. K. Problems of leadership in universities. *Amrit Bazar Patrika* 10 April, 1988.

Udgaonkar, B. M. Autonomous college—challenge and opportunities. *The Economic Times* 24 April, 1988.

CURRICULUM

Dasgupta, R. K. What is our literary history? *Amrit Bazar Patrika* 3 April, 1988.

Rahi, G. S. Pitfalls in uniform syllabi. *The Tribune* 18 April, 1988.

LANGUAGE & LANGUAGE POLICY

Griff, Tejwani S. Amnesia of regional language. *The Tribune* 18 April, 1988.

Varma, P. L. The cost of ignoring English. *The Tribune* 25 April, 1988.

VOCATIONAL EDUCATION

Ghoshal, Sangeeta. Outdated concepts of medical ethics. *Indian Express* 5 April, 1988.

Haranath, P.S.R.K. Medical courses need to be revamped. *The Hindu* 18 April, 1988.

VOCATIONAL EDUCATION (ed). *Deccan Chronicle* 6 April, 1988.

DISTANCE EDUCATION

Irudaya Rajan, R. Distance learning is today's need. *The Hindu* 5 April, 1988.

Mehra, Manmohan. Utility of distance education. *Indian Express* 2 April, 1988.

TEACHERS & TEACHING

Bhaumik, Dhruvajyoti. Must teachers be doctors? *The Statesman* 28 April, 1988.

CHANCELLOR STRIKES (ed) *The Indian Nation* 11 April, 1988.

CONSTITUENT COLLEGES (ed) *Indian Nation* 13 April, 1988.

FAKE TEACHERS (ed) *The Indian Nation* 14 April, 1988.

Gupta, Y.P. Scientists neglected. *The Hindustan Times* 29 April, 1988.

PU TEACHERS' WOES (ed) *The Indian Nation* 17 April, 1988.

Ramachandran Nair, K. R. Teachers and code of conduct. *The Hindu* 12 April, 1988.

EDUCATIONAL RESEARCH

Lele, R. D. Breaking barriers in bio-technology. *The Pioneer* 15 April, 1988.

EDUCATIONAL EVALUATION

✓Amrik Singh. Evil of mass copying. *The Hindustan Times* 28 April, 1988.

EXAMINATION TRAUMA (ed) *Deccan Herald* 12 April, 1988.

Kapoor, Prem P. Evaluation of teaching. *The Tribune* 17 April, 1988.

Khullar, K. K. New education policy and examinations. *The Indian Nation* 8 April, 1988.

ECONOMICS OF EDUCATION

A MATTER OF JOBS (ed) *The Assam Tribune* 2 April, 1988.

MIDDLE CLASS BETRAYED (ed) *The Hindustan Times* 19 April, 1988.

UNEMPLOYMENT SCOURGE (ed). *The Pioneer* 15 April, 1988.

BOOKS & LIBRARIES

Hassan Ahmad, Datuk. Signalling an electronic book era. *Deccan Chronicle* 17 April, 1988.

Srinivasan, M. S. Library services abroad: A users' perspective. *The Hindu* 26 April, 1988.

Stevenson, K. The ailing heart of OU. *Deccan Chronicle* 24 April 1988.

STUDENTS AND STUDENT ACTIVITIES

Dasgupta, Sangeeta and Sen, Rupamanjari. Going to USA for undergraduate studies. *Amrit Bazar Patrika* 19 April, 1988.

ADULT EDUCATION

Selvam, S. Learning materials in adult literacy. *The Hindu* 18 April, 1988.

INSTITUTIONAL PROFILE

Gupta, Vijay. A jinxed institute (Netaji Subhas National Institute of Sports) *The Tribune* 3 April, 1988.

Suroor, Hasan. Where are the IITs going. *The Hindu* 7 April, 1988.

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The Maharaja Sayajirao University of Baroda

NOTIFICATION No. ADE/1/1988-89

Applications are invited for the following posts in prescribed forms which can be obtained from the University Office on or before 31st May, 1988 by sending a request to the Registrar, M S University of Baroda, Vadodara-390002, alongwith a self addressed envelope of size 30 Cms x 12 Cms accompanied with a Demand Draft drawn in favour of the Registrar M S University of Baroda of Rs 2 - (Re 0 50 paise for members of Schedule Caste & Scheduled Tribe) or by producing receipt obtained for payment in Cash from Accounts Section of University Office for the same during working days only between 11 00 a m and 2 00 p m. No amount will be accepted either by M.O. or by Postal Order except in cases of SC/ST where they can send Postal Order of Re 00 50 Paise or pay the amount in cash as stated above. The SC/ST applicants will produce a copy of the Certificate to the effect at the time of requesting for application form. The ST/ST candidates coming from outside Gujarat State will also have to produce a Certificate from the competent authority of the Gujarat State mentioning that the Gujarat State has recognized them as SC/ST for the purpose.

Faculty of Arts

Professor of : (1) English

Reader in : (2) English (3) German (3a) Sociology, (4) Gujarati (VIIIth Plan post), (5) Economics (Two posts) (6) Philosophy

Faculty of Science

Professor of : (7) Physics (VIIIth Plan post) (8) Biochemistry

Reader in : (9) Microbiology (10) Mathematics (VIIIth Plan post), (11) Geology (Two posts) 11(a) Chemistry (Physical) 11(b) Physics

Faculty of Home Science

Professor of : (12) Foods & Nutrition

Faculty of Performing Arts

Reader in : (13) Tabla

Faculty of Fine Arts

Professor of : (14) Sculpture

Faculty of Education & Psychology

Professor of : (15) Educational Administration

Faculty of Technology & Engineering

Professor of : (16) Electrical Engineering (One post under VIIIth Plan) (17) Metallurgical Engg (VIIIth Plan post), (18) Applied Mechanics (VIIIth Plan post), (19) Mech Engg (Two—out of which one VIIIth Plan) (20) Central Instrumentation, (21) Textile Engg (VIIIth Plan post), (22) Textile Chemistry (VIIIth Plan post) (23) Pharmacy (Two posts—one post VIIIth Plan & one post ASRC), (24) Chemical Engineering, (25) Architecture (Two posts), (25a) Computer Science (under M.C.A.),

Reader in : (26) Electrical Engineering (Three posts, out of which Two posts are under VIIIth Plan), (27) Applied Physics (28) Applied Mechanics (Two posts) (Under VIIIth Plan) (29) Civil Engg (VIIIth Plan post), (30) Metallurgical Engineering (Two posts, out of which one post under VIIIth Plan), (31) Pharmaceutical Technology (32) Textile Chemistry (Two posts, out of which one post under VIIIth Plan) (33) Textile Engineering (VIIIth Plan post), (34) Mechanical Engineering (Two posts, out of which one VIIIth Plan post), (35) Chemical Engineering (Two posts, out of which one VIIIth Plan post), (36) Architecture (Two posts) (36a) Economics (IMTI), (36b) Sociology (IMTI)

Faculty of Commerce

Professor of : (17) Accounts (VIIIth Plan post), (38) Business Economics (VIIIth Plan post) (39) Commerce (VIIIth Plan post).

Faculty of Law

Professor of : (40) Law (VIIIth Plan post)

Faculty of Management Studies

Professor of : (40a) Marketing

LECTURERS

Sr. No.	Name of the Post	Number of vacancies (Uni./UGC/ SAP)	Reservation of post (SC/ST/ SEBC)	Number of attempts made for advertise- ment for reserved Posts
1	2	3	4	5
Faculty of Arts				
(41)	Lecturer in Economics	4-Posts (2-SAP Posts 2-Uni. Posts)	1 SC (SAP) 1 ST (Uni.) 1 S BC (Uni.)	Third Time First Time First Time
(42)	Lecturer in English	1 Uni. Post	1 ST	Second Time
(43)	Lecturer in Sociology	3 Uni. Posts	1 ST	First Time
(44)	Lecturer in Hindi	2 Uni. Posts	1 ST 1 SC	Second Time Second Time
(45)	Lecturer in Political Science	1 SAP Post	—	—
(46)	Lecturer in Gujarati	2 Uni. Posts	1 ST	Third Time
(47)	Lecturer in German	1 Uni. Post	—	—
(48)	Lecturer in Sindhi	1 Uni. Post	—	—
(49)	Lecturer in Linguistic	1 Uni. Posts	—	—
Faculty of Science				
(50)	Lecturer in Statistics	1 Uni. Post	1 ST	Third Time
(51)	Lecturer in Chemistry	1 Uni. Post	1 ST	Second Time
(52)	Lecturer in Physics	1 Uni. Post	1 ST	Second Time
(53)	Lecturer in Biochemistry	3 Uni. Posts	1 ST 1 SC/1 SEBC	Second Time First Time
(54)	Lecturer in Zoology	4 Posts	1 ST 1 SC 1 SEBC	First Time —
(55)	Lecturer in Microbiology	1 Uni. Post	1 ST	Second Time
(56)	Lecturer in Geography	1 Uni. Post	—	—
(57)	Lecturer in Mathematics	1 Uni. Post	—	—
Faculty of Management Studies				
(58)	Lecturer in Marketing	1 Uni. Post	—	—
(59)	Lecturer in Organisational Behaviour	1 Uni. Post	—	—
Faculty of Technology & Engineering				
(60)	Lecturer in Mechanical Engg.	4 Uni. Posts	1 SEBC 1 ST/1 SC	Second Time First Time
(61)	Lecturer in Textile Chemistry	1 Post	1 SEBC	Third Time
(62)	Lecturer in Applied Mechanics	1 Post	1 ST	First Time
(63)	Lecturer in Applied Mathematics	1 Post	—	—
(64)	Lecturer in Architecture	2 Uni. Posts	1 ST	First Time
M.K. Amin Arts & Science College and College of Commerce, Padra				
(65)	Lecturer in Geography	1 Uni. Post	—	—
(66)	Lecturer in Ancient Indian Culture	1 Uni. Post	—	—
(67)	Lecturer in Political Science	1 Uni. Post	—	—
(68)	Lecturer in Accounts	2 Uni. Posts	—	—
(69)	Lecturer in Mathematics	1 Uni. Post	—	—
Faculty of Home Science				
(69a)	Lecturer in Clothing & Textiles	2 Uni. Posts	—	—
(70)	Lecturer in Physics	1 Uni. Post	—	—
(71)	Lecturer in Arts & Crafts (Home Management Deptt.)	1 Uni. Post	—	—

1	2	3	4	5
(72)	Lecturer in Child Development	2 Uni Posts	1 ST 1 SEBC	Second Time Second Time
Polytechnic				
(73)	Lecturer in Civil Engg	1 Uni Post	1 ST	First Time
(74)	Lecturer in Chemistry	1 Uni Post	—	—
Faculty of Performing Arts				
(75)	Lecturer in Music (Vocal)	1 Uni Post	1 ST	First Time
(76)	Lecturer in Tabla	1 Uni Post	—	—
Oriental Institute				
(77)	Research Officer	1 Uni Post	1 ST	Third Time

SCALE OF PAY —

FOR HUMANITIES AND SCIENCES AND TECHNOLOGY & ENGINEERING

(1)	Professor	Rs 1500-60-1800-100-2000-125-2-2500
(2)	Reader	Rs 1200-50-1300-60-1600-Assessment 60-1900
(3)	Lecturer Research Officer	Rs 700-40-1100-50-1300-Assessment 50-1600

The above pay scales are likely to be revised

For Polytechnic

(1)	Lecturer	Rs 2200-75-2800-FB 100-4000
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The application forms duly completed in all respects, alongwith prescribed fees as shown below in the form of Demand Draft in favour of Registrar should reach the Registrar, M.S. University of Baroda, Vadodra 390 002 on or before **15th June 1988**

- Fees** (1) Rs 10.00 (Rs 2.50 for SC/ST) applicants for posts of Professors/Readers
(2) Rs 8.00 (Rs 2.00 for SC/ST) for posts of Lecturers and Research Officer

The above prescribed fees must be paid in CASH and obtain receipt thereof from the Accounts Section of the University Office on or before the stipulated date

Note

- (1) The candidate must possess the required qualifications at the time of last date fixed for receipt of applications by the University
- (2) Convincing direct or indirect will be a disqualification
- (3) No application will be considered which is received after the last date of receipt of applications and any kind of fees paid by the applicant is non-refundable and no correspondence in this respect will be entertained
- (4) Application on 11 in paper will not be considered and no correspondence in that respect will be entertained
- (5) Reservation of posts is restricted to those who are proclaimed as such and in support of this Certificate of reservation authority from the Gujarat State is required to be submitted alongwith the application
- (6) Only SC/ST/SEBC and date need apply for reserved posts except for the posts which are advertised **THIRD TIME**
- (7) So far as the reserved posts are concerned and advertised for the Third Time they will be filled up by other suitable and eligible candidates if no candidate from the concerned reservation is available or found suitable by the Selection Committee
- (8) Candidates if called for interview will have to come at their own expense
- (9) The applicant who wants to apply for the post of Professor/Reader has to submit his application in six copies. However, the University will supply only one application form and the candidate is free to send five other xerox copies of this form duly filled in
- (10) The applicant will have to apply only for the post for which he asks for the application form and issued to him. However, if the applicant while submitting the application form makes any changes in the nature of post the same will not be considered as valid and same will be filed and no correspondence in this respect will be entertained and amount paid will be forfeited

R V Kothari
UNIVERSITY REGISTRAR

INDIAN VETERINARY RESEARCH INSTITUTE

IZATNAGAR, (UP) 243122

ADMISSION NOTICE

A Competitive Written Examination for admission to the 1st year of the Academic Session [1988-89] of Doctoral and Master's Degree Programme in the following disciplines, will be held on Monday, 1st August, 1988 at Bangalore, Calcutta and Izatnagar Centres

A. Doctoral Programme [Ph D]

1. Animal Breeding
2. Animal Genetics
3. Animal Gynaecology & Obstetrics
4. Animal Nutrition
5. Animal Physiology
6. Animal Reproduction
7. Biochemistry
8. Animal Science Extension
9. Livestock Products Technology
10. Poultry Science
11. Veterinary Bacteriology
12. Veterinary Immunology
13. Veterinary Medicine
14. Veterinary Parasitology
15. Veterinary Pathology
16. Veterinary Pharmacology
17. Veterinary Surgery
18. Veterinary Virology

Eligibility

(i) At least 60% marks in aggregate (55% for SC/ST) in Master's Degree Examination in the relevant subject

(ii) A good knowledge of English is essential.

B. Master's Programme [M V.Sc M Sc]

1. Animal Genetics & Breeding
2. Animal Gynaecology and Obstetrics
3. Animal Nutrition
4. Animal Physiology
5. Avian Diseases
6. Biochemistry
7. Biostatistics
8. Biotechnology
9. Animal Science Extension
10. Epidemiology
11. Livestock Prod. & Management
12. Livestock Economics
13. Livestock Products Technology
14. Poultry Science
15. Veterinary Bacteriology
16. Veterinary Immunology
17. Veterinary Medicine
18. Veterinary Parasitology

19. Veterinary Pathology
20. Veterinary Pharmacology
21. Veterinary Public Health
22. Veterinary Surgery
23. Veterinary Virology

Eligibility

(i) At least 60% marks in aggregate (55% for SC/ST) in Bachelor's Degree in Veterinary Science/Dairy Science/Animal Science/Agriculture (with Animal Science as elective) Life Sciences/Statistics

How to Apply

Application form together with the Information Bulletin can be had personally from the University Office of the Institute on cash payment of Rs 15/- or through post by sending requisition to The Assistant Administrative Officer (Academic), IVRI, Izatnagar (UP)—243122 along with a crossed Bank Draft for Rs 25/- for each form, drawn in favour of Director, IVRI, Izatnagar, payable at State Bank of India, CARI Branch, Izatnagar, accompanied by a self-addressed unstamped envelope measuring 28 cm x 20 cm

Note

(i) 60% marks will be considered equivalent to an OGP 2.10 out of 3.00, 2.80 out of 4.00, 3.50 out of 5.00 and 7.00 out of 10.00 GPA systems

55% mark will be considered equivalent to an OGP 1.94 out of 3.00, 2.58 out of 4.00, 3.23 out of 5.00 and 6.45 out of 10.00 GPA systems

(ii) Candidates who are appearing in the qualifying examination prescribed for admission to a particular programme, are also eligible to appear in the Competitive Examination provided they submit final Marks Sheet PDC by 15.7.88 otherwise they will stand disqualified

(iii) A candidate may indicate two disciplines of his choice in order of preference in the column provided in the Application Form according to the eligibility qualifications.

(iv) 15% and 7.5% seats are reserved for SC and ST candidates, respectively.

(v) The SC/ST candidates called for written examination will be paid travelling allowance limited to IIInd Class

Railway fare both ways on production of Caste Certificate and evidence of journey performed.

(vi) Final selection will be based on academic career and performance in the competitive examination.

(vii) The venue, date, and time table for Examination are available in the Information Bulletin

(viii) No. of seats: 15 seats are available in Biotechnology and 3—5 seats in rest of the disciplines.

(ix) Financial assistance in the form of IVRI Fellowship (Junior Senior) shall be offered to the selected students on certain terms and conditions

(x) Application forms will be issued from 16.5.88

(xi) Last date for receipt of requisition for supply of application forms 10.6.88

(xii) Last date for receipt of the application forms duly filled in (without late fee) 20.6.88

(xiii) Last date for receipt of the application forms duly filled in (with late fee of Rs. 50/-) 30.6.88

H C Saxena
ASSTT ADM OFFICER (A)
for REGISTRAR

GUJARAT VIDYAPITH
AHMEDABAD-380 014

Applications are invited for the below-mentioned posts

1. Professors (1.1) Principal—MD Social Service College (1.2) Social Work (4500-7300) 2. Readers (3700-5300) (2.1) Rural Technology-Randheja (2.2) Development Officer at Ahmedabad for planning and evaluation of the UGC Schemes (2.3) Library Science-Ahmedabad (2.4) Rural Management and Rural Development at Sadra village (2.5) Mechanical Engineer for Rural Service Centres at Sadra Randheja (2.6) System-in-Charge-Computer Science Unit (Pay fixation according to Post-Graduate qualifications Rs. 3000-4500, or Rs 3700-5300, 3. Lecturers: (2200-4000) (3.1) Physical Education Teacher (Male) for Sadra Campus (3.2) Physical Education Teacher (Female) for Randheja Campus

and one (Male) for Ahmedabad Campus —for these three posts the candidates should possess M.A. IIInd class and Post-Graduate Diploma in Physical Education & have Experience (3.3) Hindi Language and Literature (Reserved) (3.4) Social Anthropology (reserved) (3.5) Problems of Elementary Education for M Ed Course (reserved) (3.6) Asstt. Librarian (Sadra, Randheja and Ahmedabad) includes reserved post (3.7) Adult Education and Population Education Programme Organisers (Sadra and Randheja) (3.8) Gandhian Thought (3.9) Asstt. Registrar (Accounts) (3.10) Health Officer and Doctor (Sadra-Randheja) and Ahmedabad) one post for each place (3.11) Rural Development and Rural Management (3.12) Computer Programmer and Instructor (3.13) Tribal Education 4 Technical Assistants : (1400-2300) (4.1) Language Education Laboratory (4.2) Library (reserved) (4.3) Instructor in Carpentry and Blacksmithy (reserved) (4.4) Computer Technical Assistant (4.5) Micro Photographer for Archival Cell (4.6) Electronic Equipment Assistant for Adult Education Work (4.7) Lab Asstt for Home Science Laboratory at Randheja (4.8) Hindi, Gujarati and English Stenographers (4.9) Music Teacher for Randheja and Sadra Rural Colleges 5 Curator of Museum (for candidates holding Post-Graduate degree and M degree (2200-4000) 6 Warden For Vallabh High School Bocharan (consolidated salary Rs 1000-) 7 Research Associate (Post-doctoral) for Buddhist Studies (2) Documentation Officer (consolidated salary Rs 1400- for Buddhist Studies) (8) Proof Reader (1200-2040)

Last date for receiving the application forms is 25-5-1988. Other details will be sent along with the application forms on payment of Rs. 2-. Those intending to get the application form should send money order of Rs. 3- with name and address on M.O. coupon. Only applications made on the prescribed forms will be considered for reserved posts if qualified candidates are not available, vacancies will be filled up with other candidates on temporary basis. Apart from basic salary, approved dearness allowance and house rent allowance etc. will also be available.

Vinod Tripathi
REGISTRAR

UNIVERSITY OF KERALA University Buildings, Trivandrum

No. PR. 1201/1/1988
Erratum Notification

In partial modification of this office notification of even No. dated 10-3-1988, it is hereby notified that the posts of Technical Officer and Shift Operator belong to the Computer Centre of the University, and, not to the Department of Computer Science.

The last date for receipt of applications for these posts alone has been extended to 20-5-1988.

Prof S K Rajagopal
REGISTRAR

GURU NANAK DEV UNIVERSITY AMRITSAR

(Establishment Branch)
Advertisement No 2 88

Applications are invited for the following posts on prescribed form obtainable at a price of Rs. 2- from the office of the Registrar by making a written request accompanied by self addressed Rs 1-40 stamped envelope of 23 x 10 Cms. so as to reach this office by 25-5-88 alongwith crossed Indian Postal order(s) of Rs. 10/- for posts at Sr. No. 1 to 20 and Rs 5/- for others (non-refundable) drawn in favour of the Registrar, Guru Nanak Dev University, Amritsar.

Persons already in employment must send their applications through their employers. Candidates from within India may not be considered in absentia. Higher start in the grade may be given depending upon qualifications and experience

The qualifications for the posts of Professor, Lecturer will be those as prescribed by the University Grants Commission and approved by the State Government from time to time.

Professors (Grade Rs. 4500-7300)

1. Economics—2
2. Physics—1
3. System Incharge—1) for (Grade Rs. 1100-1600 un-) com-
revised.) puter
4. Programmer—1) centre
(Grade Rs. 700-1600))
unrevised)
- 5 Archivist—1 (Grade Rs. 1200-1900) unrevised for Archival Cell History Department.
- Lecturers (Grade Rs. 2200-4000)
6. Economics—1
7. Biology—1
8. Electronic Technology—2
9. Political Science—1 (for University College, Jalandhar)
10. Commerce—1 (for University College, Jalandhar)
11. Physics—1
- 12 Russian—1 (for the department of Classical Indian Foreign Languages).
13. Assistant Archivist—1 (Grade Rs. 700-1600 unrevised,) for Archival Cell History Deptt.
14. Assistant Registrar—1 (Grade Rs. 940-1850+100 special pay)
15. Warden Girls Hostel—1 (Grade Rs. 550-900 UGC)
16. Assistant Publication Officer (Production)—1 (Grade Rs. 700-1200)
- Research Associates (Rs. 1400/- p.m. fixed)
17. History—2 (One for project on Panjab studies)
18. School of Panjabi Studies —1
- Junior Research Fellow (Rs. 800/- p.m. fixed)
19. Mathematics—1
- 20 English—1
21. Technician Grade-I (Photomicrography) (Biology Deptt.) Grade Rs. 700-1200.
22. Mechanic Glass Blowing—1 (Chemistry, Grade Rs. 600-1120)
23. Technical Assistant Grade V (Tissue Culture)—1 (Biology Deptt. Grade Rs. 600-1120)

24. Conservationist—I (Grade Rs. 425-700) for Archival Cell History Deptt.

25. Technician Grade—II (Biology)—I Grade Rs. 480-800.

26. Technician Grade—III (Herbarium) Biology Deptt.—I Grade Rs. 480-800

27. Foreman Electrical (Construction)—I Grade Rs. 510-940.

28. Watch & Ward Supervisor—I (for Security Deptt.) Grade Rs. 450-700.

29. Staff Nurse—I) for University Grade Rs. 510-940)

30. Laboratory Technician—I) Health Centre Grade Rs. 510-940)

31. Laboratory Attendant (Biology)—I Grade Rs. 400-600

32. Field Supervisor (Youth Welfare Deptt.)—I Grade Rs. 400-600

33. Technician-B (Electronics) (USIC)—I (Grade Rs. 320-450)

Qualifications/Specialisations

For Sr. No. 1

For 1st post

(i) Economic Theory

(ii) Economic Development

For 2nd post

(i) International Economics

(ii) Money and Banking

(iii) Agricultural Economics

For Sr. No. 2 : In Any area of Physics including theoretical Physics.

Sr. No. 3 : Master's Degree in Engineering/Technology with Computer or Electronics specialization or Master's degree in Science Mathematics Economics/Statistics/Operational Research/Commerce/Management with Post Graduate Diploma or Bachelor's degree in Engineering/Technology with Computer or Electronics specialization or equivalent.

Experience

Nil for ME/M. Tech., 2 years for M.Sc./B.E./B. Tech.

Sr. No. 4 : First or Second Class

Master's degree in Computer Science with atleast one year experience of working in a university/ Government organisation.

OR

First or Second Class Master's degree in Mathematics/Statistic/Physics/Chemistry/Economics or a graduate in Engineering with a Post Graduate Diploma course in Computer Science of Guru Nanak Dev University or equivalent with atleast two years experience of working in a University Government organisation. The candidates who do not possess the post graduate diploma will be required to have atleast 5 years working experience in computer programming in a University Government organisation.

Note : The Selection Committee will interview only those candidates who qualify in a written test to be devised by the Selection Committee.

Sr. No. 5 : (i) Atleast 2nd class Master's degree in History with an optional paper in Indian History of post 1600 period from a recognised University.

(ii) Preferably, Diploma in Archival Studies or Certificate course in Archival Administration and record Management.

(iii) Experience of editing historical documents

Sr. No. 6 : Specializations

M.A MSc Statistics with specialization in Theory of Statistics Econometrics Mathematical Economics Computer applications.

Sr. No. 7 : Any modern discipline of Biology preferably in the Microbiological sciences, Botanical Sciences and Human Biology.

Sr. No. 8 : Master's degree in Biotechnology/Chemical Engineering. In case suitable candidates with Master's degree are not available or found unsuitable, first class B. Tech./B.E. in Bio-technology/

Chemical Engineering will be considered. However, they will have to obtain Master's degree in the relevant field within five years.

Sr. No 13 : (i) Second Class Master's degree in Modern Indian History of a recognised University or equivalent

(ii) Preferably diploma in Archival Studies or Certificate course in Archival Administration and Record Management.

(iii) About 2 years' experience of Research or teaching in Modern History to University classes or about 2 years' experience of work in Government record office

Sr. No. 14 : M.A. or B.A., LL.B., Knowledge of Panjabi upto Matric Standard Ten years' experience in a University Corporate Body Government Office. Three years experience as Superintendent Grade-I or equivalent

Sr. No. 15 : (i) Masters' degree or an equivalent qualification from recognised university

(ii) Atleast five years experience of having managed a women hostel preferably in University

(iii) Experience of teaching and/or of organising extra curricular activities would be additional qualification

Sr. No 16 : (i) Matric second division and three years diploma of Printing Technology

(ii) Five years practical experience relating with production of books and research journals of University level

OR

M.A. with three years experience of production of books Must have knowledge of modern printing technique.

Sr. No 17 : A person with consistently good academic record with Ph.D. or M. Phil. or at least three years research experience may be appointed as Research Associate.

Sr. No. 18: Essential

- (i) M.A., M.Phil in Linguistics.
- (ii) M.A. Punjabi or Sound knowledge of Punjabi upto B.A. level.

Preferable

- (i) Research experience in the field of Punjabi language and/or coinage of terminology.
- (ii) Comprehensive knowledge of the structure of Punjabi language field methodology and data collection.

Sr. No. 19 : First or high second class Master degree in Mathematics having good academic record and aptitude for research.

Sr. No. 20 : Master of Arts from a recognised university in India or an equivalent degree from a foreign university.

Sr. No. 21 : B.A. B.Sc., Diploma in Photography from recognised institution; five years experience in Photography preferably in Photomicrography.

Sr. No. 22 : Matric Higher Secondary or equivalent with three years diploma course from recognised institution or three years experience in a reputed organisation and expert knowledge of Scientific Glass working. Blowing particularly with hard glasses and as applied to high vacuum apparatus, making of (hard) glass-to-metal seals, handling of glass working lathes etc.

Sr. No. 23 : B.Sc. with Botany and Zoology/Agriculture with at least 2 years experience in tissue culture.

Sr. No. 24 : (i) B.Sc.

(ii) Certificate Course in Repair and Conservation.

Sr. No. 25 : Pre-Medical with a minimum experience of five years as Laboratory Attendant in University or Matric with eight years experi-

ence of working as Laboratory Attendant in University.

Sr. No. 26 : Pre-Medical with a minimum experience of five years working as Lab. Attendant in Plant Science laboratory of a University or Matric with eight years experience as Lab. Attendant in Plant Science Laboratory. The candidates who have been involved in the collection of plants/animals will be given preference. Qualifications may be relaxed if the candidate has been involved in the collection of plant/animals for 15 years.

Sr. No. 27 : I.T.I. with 6 years experience as Electrician.

OR

'A' grade Licence from Chief Electrical Inspector to Punjab Govt with atleast 8 years experience. Person having worked in a supervisory capacity will be given preference

Sr. No. 28 : Retd. Sub. Major/Hony Lieut. Matric Ist Class Army.

Service Condition

Inf./Armoured Corps/Arty/Fighting arms.

Preference will be given to Sub-Major who Commanded a team as Sub-Maj of a Bn/Regt.

A practical soldier is preferred.

Sr. No. 29 : Matric with Diploma in General Nursing and mid wifery from a recognised Institution and Registration with State Nursing Council. Punjabi upto Matric. Experienced hand will be preferred.

Sr. No. 30 : Matric, Diploma in Laboratory Technician from a recognised institution. Punjabi upto Matric standard. Preference will be given to the experienced hand.

Sr. No. 31 : Matric with Science. Preference will be given to those having experience of working in Scientific laboratory.

Sr. No. 32 : (i) Minimum academic qualification B.A.

(ii) Two years experience in

Youth Leadership Training camp/Hiking and Trekking Camp.

(iii) Must have achievements in Cultural Competitions.

Sr. No. 33 : Diploma in Electronics from a recognised Polytechnic or Certificate Course in Electronics with three years experience of repair and maintenance of electronic instruments in a recognised institution.

The candidate must have passed also Matric with at least second division.

Note : Those who have already applied for the posts of Archivist, Assistant Archivist and Conservationist need not apply again.

Candidates belonging to Scheduled Castes/Backward Classes of Punjab State when called for interview will be paid travelling allowance according to University rules.

**K.S. Thind
REGISTRAR**

UNIVERSITY OF CALCUTTA

Senate House, Calcutta-73

Advt. No. Est./3,88

Applications are invited for the posts of University Readers/Lecturers in the U.G.C. Scales of Pay (i.e. Readers 1200-1900/-, Lecturers Rs. 700-1600/-) plus allowance as may be admissible from time to time under the rules of the University. Higher initial pay within the grade may be given to an incumbent in consideration of excellence of academic record and experience. The University offers tripple retirement benefits, i.e. Contributory P.F., Gratuity and Pension as per the University Rules. Appointment will be made on merit without discriminations on grounds of race, religion, language or sex; however, working knowledge of written and spoken Bengali is desirable.

Essential Qualifications and Experience

(a) Uniformly good academic

career with the Master's and Bachelor's Degree with Honours of this University or equivalent.

(b) Evidence of continuing research interest as manifest in published work in reputed research journals or Doctoral degree of a recognised University.

(c) In the case of posts under the Faculties of Medicine and Technology, candidates must possess the essential qualification and/or experience required for the posts as laid down by the respective professional bodies viz the Medical Council of India and the All India Council for Technical Education, as the case may be where applicable.

(d) Teaching experience at the Post-graduate level or relevant Industrial/Professional Experience—(i) for Readers: 10 years. (ii) For Lecturers: 5 yrs. (Degree and Research/Teaching experience shall be in the subject concerned or in an interdisciplinary field considered relevant by the Selection Committees).

Relaxations

The Syndicate may relax, if so recommended, by the Selection Committee on specific grounds, the stipulations regarding qualifications and the number of years of relevant experience in case of candidates possessing exceptionally good academic records and outstanding capabilities. The Selection Committee may also consider suitable qualified persons who may not formally apply.

Group—A

Name of the Department

1. **Philosophy**
Reader—2 posts
2. **Commerce**
Reader—3 posts

Lecturer—3 posts

3. **Library Science**

Reader—2 posts

Lecturer—4 posts

4. **Economics**

Reader—1 post

Lecturer—1 post

5. **Linguistics**

Lecturer—3 posts

6. **Tamil**

Lecturer—2 posts

7. **Education**

Lecturer—1 post

8. **Urdu**

Reader—1 post

Lecturer—1 post

9. **South & South East Asian**

Studies

Reader—1 post

Lecturer—1 post

10. **Ancient Indian History and**

Culture

Reader—3 posts

Lecturer—2 posts

11. **Sanskrit**

Lecturer—4 posts

12. **Hindi**

Reader—2 posts

Lecturer—2 posts

13. **Arabic & Persian**

Lecturer—2 posts

14. **Pali**

Reader—1 post

Lecturer—1 post

15. **Language Deptt.**

Reader—1 post

Lecturer—7 posts

16. **History Department**

Reader—3 posts

Lecturer—3 posts

17. **Museology**

Reader—2 posts

Lecturer—2 posts

18. **Journalism**

Reader—2 posts

Lecturer—2 posts

19. **Business Management**

Reader—2 posts

Lecturer—1 post

20. **Sociology**

Reader—2 posts

Lecturer—3 posts

21. **Archaeology**

Lecturer—1 post

22. **Bengali**

Reader—1 post

Group A—Specialisation

Commerce

Reader—3 posts

1. Master's degree in Commerce with specialisation in accountancy (One post)

2. Master's degree in commerce (One post)

3. Master's Degree in Statistics (One post)

Lecturer—3 posts

1. Master's degree in Commerce with specialisation in Accountancy (One post)

2. Master's degree in Economics (One post)

3. Master's degree in Commerce (One post)

Business Management

Reader—2 posts

Lecturer—1 post

Economics with specialisation in Econometrics.

Specialisation in any of the functional areas of management, viz. marketing, personnel and finance.

South and South East Asian Studies

Reader—1 post

Master's degree in Economics Geography, Physics Sociology/Statistics—Desirable qualifications: Experience of Research Bangladesh, Burma Philippines Thailand.

Lecturer—2 posts

1. Specialisation in Burmese Language.

2. Specialisation in Thai language.

Archaeology

Lecturer—1 post

Prehistory and Archaeology—Ethnography 1 M.A. in Archaeology.

Department of Library Science

Readers—2 posts

Readers for one

1. Modern Technique of information Retrieval with first hand

knowledge in the operation of on-line information.

For 2nd post.

2. Modern Cataloguing techniques and operations of special Libraries.

Library Management.

Lecturer—4 posts

For Lecturers

- (a) Practicals Theoretical aspects of bibliographical classification.
- (b) Practicals Theoretical aspects of Cataloguing.
- (c) Historical and Systematic Bibliography
- (d) Reference sources and services.

Administration and operation of Academic Libraries.

Group-B. Name of the Department

1. Chemical Engineering

Reader— 2 posts.

Lecturer— 5 posts

2. Applied Physics

Reader— 1 post.

Lecturer—1 post.

3. Chemical Technology

Lecturer—2 posts.

4. Plastic & Rubber Technology

Lecturer—2 posts.

5. Anthropology

Reader— 1 post.

Lecturer—6 posts.

6. Geography

Reader— 1 post

Lecturer—1 post.

7. Statistics

Reader— 1 post.

Lecturer—2 posts.

8. Zoology

Reader— 2 posts.

Lecturer—1 post.

9. Geology

Reader— 1 post.

Lecturer—1 post.

10. Physiology (Sc)

Lecturer—3 posts.

11. Chemistry

Reader— 1 post.

Lecturer—2 posts.

12. Bio-Chemistry (Sc)

Lecturer—1 post.

13. Home Science

Lecturer—8 posts.

(Including the vacant post in Food and Nutrition)

14. Botany

Lecturer—4 posts.

15. Physics

Reader— 1 post.

Lecturer—2 posts.

16. Electronic Science

Reader— 4 posts.

Lecturer—3 posts.

17. Applied Psychology

Reader— 1 post

18. Radio Physics & Electronics

Reader— 1 post.

Lecturer—3 posts.

19. Applied Mathematics

Lecturer—1 post.

Group—C. Name of the Department

1. Anatomy

Reader— 1 post.

2. Medical Microbiology & Parasitology

Reader— 1 post.

3. Pharmacology

Reader— 1 post

Lecturer—1 post

4. Bio-Chemistry (Med.)

Lecturer—3 posts.

Group—B. Specialisation

Applied Physics.

Reader— 1 post.

Lecturer—1 post

M.Tech/M E (I) Electrical Machines & Power System or Measurements & Instrumentation or Optics and Optoelectronics M.Tech. M.E. Electrical Machine & Power System.

Radio Physics and Electronics

Reader— 1 post.

Lecturer—3 posts.

For Reader; Specialisation in any one or more of the following fields of Radio Physics & Electronics, viz.,

(a) space Science, (b) Solid State Electronics (c) Microwave Electronics (d) Plasma and Quantum Electronics, (e) Bio Electronics (f) Control Engineering (g) Micro-processors and Computer Hardware (h) Communication Engineering.

Specialisation

For Lecturers : same as Reader.

Statistics

Specialisation for Reader

Demography.

Specialisation for Lecturers (I) Essential—Demography.

Desirable : Knowledge of Computer Programming Stochastic process and design of experiments.

For 2 Essential Econometrics and Stochastic Processes.

Chemistry

For Reader, Specialisation in Organic Chemistry in Natural Products.

For Lecturers one in Physical Chemistry, & other for Inorganic Chemistry.

Home Science

Lecturer—8 posts.

1. M.Sc. in Bio-Chemistry with Ph.D. special paper in Microbiology.

2. M.Sc. in Food and Nutrition or Physiology with Ph.D. special paper in Nutrition or in Bio-Chemistry.

3. M.Sc. in Physiology with Ph.D. Special Paper in Nutrition or Bio-chemistry.

4. M.Sc. in Chemistry with Ph.D. special paper in Organic Chemistry.

5. M.Sc. in Food and Nutrition/ Chemistry Organic/Food Technology with Ph.D. Special Paper in Food Chemistry, 5 years teaching experience at P.G. level.

6. M.A. in Bengali, Ph.D. or at least 10 years teaching experience at Under-Graduate level.

7. Master's Degree in Arts & Crafts specialisation in Visual or Fine Arts, 5 years teaching experience at U.G. level.

8. Master's degree or equivalent in Textile and Laundry. 5 years experience at U.G. or equivalent level.

Applied Psychology

Reader—1 post

Psychometry/Management Psychology and Organisational Behaviour.

Physics

Lecturers—for one post in 'X' Ray and Crystallography and the other post in 'Electronics'. Both the incumbents should have background in the Solid State Physics.

Group—C

Specialisation

Medical Microbiology & Parasitology

Reader—1 post

"Bacteriology, Immunology Mycology".

Pharmacology

Reader—1 post

Lecturer—1 post

M.D. (Pharmacology) D.M. (Chemical Pharmacology) will be additional qualifications.

Bio-chemistry

Lecturer—3 posts-

1. Clinical Biochemistry (One Post)
2. Molecular Biochemistry (One Post)
3. Nutritional Biochemistry (One Post)

For Group A B C

The selected candidates will be placed on probation for one year which may be waived in exceptional cases. The appointment shall be subject to the rules laid down for the teachers from time to time.

Applications (Seven copies) in prescribed form (obtainable from

the University Sales Counter on payment of Rs 10/- or by post on sending a self-addressed Rs 1/- stamped envelope of 28 cm x 12.5 cm. size with a crossed I.P.O. of Rs. 10/- payable in the name of Calcutta University) should reach the undersigned not later than 27th May, 1988

For persons applying from abroad, submissions of applications in the prescribed form is not necessary. Such candidate may submit seven typed copies of detailed bio-data with an application fee of Rs. 10/- within 27th May, 1988.

Candidates who had applied in response to previous advertisements of 1984 and 1985 need not apply again in the prescribed form but they are advised to send on plain papers additional information, if any, together with a fresh bio-data in support of their respective candidature indicating therein the exact post(s) for which they had applied and now desire to be considered

P. K. Chowdhury

DEPUTY REGISTRAR (Admin)

S.K. PATIL SINDHUDURG MAHAVIDYALAYA

&

RAMBHAU PARULEKAR JUNIOR COLLEGE, MALVAN

Dist. Sindhudurg, Pin-416 606

WANTED

Applications are invited for the posts of lecturer in the Degree College :

Sr. No.	Subject	No. of Posts	Full time/ Part time	Posts reserved for SC/ ST DT NT	Dereserved after three advertisements	Open
1.	MARATHI	1	Full time	SC	1	—
2.	ECONOMICS	1	Full time	—	1	—
3.	GEOGRAPHY	1	Part time	Likely depending on number of students.	1	—
4.	BUSINESS LAW	1	Part time (Likely to be made full time depending on work-load)	ST SC	—	—
			4 periods Hourly Basis (Likely to be made part time)			
5.	ACCOUNTANCY	1	C.H.B.	—	—	—
6.	ECONOMICS	1	Full time	—	—	—
			(Substitute Appointment for one year under U.G.C. FIP.)			

Total number of posts advertised : 07

Though the posts are reserved as above, B.C. candidates will be preferred for all the posts (except No 6) as the backlog is to be filled in.

The last date for receipt of applications is the date after fifteen days of publication of this advertisement.

(a) The qualifications and pay-scale(s) for the post(s) are as prescribed by the University of Bombay. The details of qualifications, pay-scales and allowances will be supplied on request.

(b) Applicants who are already employed are required to submit their applications through proper channel.

(c) Applicants are required to account for breaks, if any, in their academic career.

In case candidates from reservation category are not available, candidates from open category will be considered for temporary appointment.

Applications with full details (Bio-data, Caste-certificate and true attested copies of marklists of H.S.C., Graduate & Post-Graduate Degree Examinations) should reach the undersigned as above.

Dr. M.M. Jawadekar
PRINCIPAL

NORTH EASTERN HILL UNIVERSITY LOWER LACHAUMIERE: SHILLONG

No Advt P-1, 88-1060

Dated : the 21st April, 1988

Applications on prescribed form are invited for the following posts in the Computer Centre of the North-Eastern Hill University, Shillong so as to reach the Registrar, NEHU Shillong-793001 along with a crossed Indian Postal Order of Rs 10 - (not applicable for SC/ST candidates) payable to the North-Eastern Hill University, Shillong-793001 by 31st May 1988.

- 1 **Prof of Computer Science**
Rs. 4500-7300 - (Revised)

Educational background required
Ph D in Computer Science Technology
Experience in hardware or software
Or

Ph D in Electronics, Elec Engineering, Physics or Mathematics may be considered provided they have good computing experience

- 2 **Systems Engineer (2)**
Rs 1100-1600 - (Pre revised)

Educational background required
(1) Master's level degree in Computer Technology or Electronics with specialisation in Computer hardware, with experience

(2) Master's level degree in Computer Science with specialisation in software engineering, with experience

- 3 **System Analyst** Rs 700-1300 -
(Pre-revised)

Educational background required Graduate in Mathematics/Physics/Statistics/ICA with experience in FORTRAN—IV 77 preferably in main frame computer systems knowledge of JCL of IBM 370 series computer statistical package is desirable

- 4 **Programmers** Rs 700-1300
(Pre revised)

Educational background required

(1) Master's Bachelor's level degree in software engineering

(2) Master's level in the applications area.

- 5 **Computer Operators**
Senior—Rs 550-900 - (Pre-revised)
Junior—Rs 425-700/- (Pre-revised)

Educational background required
(Senior)

(a) Master's level degree in Science subjects with experience in the field of Computer Operations/applications

Or

(b) Bachelor's level degree in Science subjects with experience in the area of Computer operations/applications

(c) Bachelor's level degree in Commerce/Arts subject with a minimum of 2 years experience in the area of Computer operations/applications
(Junior)

(a) Bachelor's level degree in Science with experience in the field of Computers

Or

(b) Graduate in Commerce Arts subjects with experience in the area of computer operations/applications

- 6 **Key Punch Operator** : Rs. 260-400 -
(Pre-revised)

Educational background required -
High School with special training in Key Punch Operation necessary

- 7 **One Trainee Programmer**
Rs 1000 - p.m fixed (ordinarily for one year but not more than two years)

Educational background required
P.G Diploma in Computer Programming Knowledge of FORTRAN IV COBOL, etc Degree in any discipline

- 8 **Two Trainee Operators** Rs 800 -
p.m. fixed

Educational background required
Graduate in any discipline

NOTE Candidates already in service should send their applications through proper channel. An advance copy may however be sent direct.

Applications received after the due date will not be entertained. A person applying for more than one post should send a separate application for each post.

The University reserves the right to negotiate with suitable persons who may not have applied formally. The University also reserves the right to fill up or not to fill up the post or to call only selected candidates for interview. The number of posts may vary.

Application forms can be obtained from the Section Officer, Establishment (B) Branch North Eastern Hill University Shillong-793001 personally on payment of Rs 2.00 or by mailing a written request to him accompanied by self-addressed stamp envelope of 23 x 10 cm and a Postal Order for Rs. 2.00 drawn in favour of North Eastern Hill University, Shillong-793001.

**D C Pant
REGISTRAR**

PANJAB UNIVERSITY CHANDIGARH

(Advertisement No. 5 1988)

Applications are invited for the following posts so as to reach the Registrar Panjab University, Chandigarh along with postal orders of Rs 10/-

by 3.6.1988. Fourteen days extra time is permissible to persons who have to submit their applications from abroad

- I **Professors** : Rs. 4500-150-5700-200-7300 (Revised)
Botany-2, Anthropology-1, Chemical Engineering & Tech -3 (Chemical Engineering-2, Chemical Tech.-1)

- II **Readers** : (Rs. 3700-125-4950-150-5700) (Revised)
Botany-2, Zoology-2, (Cell Biology 1, Parasitology Fish & Fisheries-1), Physics-1, Chemical Engineering & Tech (Chemical Engg -1), Pharmaceutical Sciences-2 (Pharmacognosy-1, Pharmacology-1)

- III **Lecturers** : (Rs. 2200-75-2800-100-4000) (Revised)
Chemistry (Organic Chemistry)-1, Anthropology (Social Anthropology)-1 (Temp-Leave vacancy), Chemical Engineering & Technology (Chem Tech)-1

- IV **Lecturer-cum Assistant Librarian** (Rs 700-40-1100-50-1600) Library Science-1

- V **Research Associates** (Consolidated emoluments ranging between Rs 1400 - and 2000 p.m (fixed) depending upon the qualifications and research experience and contingent grant of Rs 5000 - per annum for approved contingent expenditure)
Zoology-2, (Aquatic Biology, Limnology and Ichthyology-1 and Parasitology-1)

- VI **Senior Research Fellows** (Rs. 1200 - p.m (fixed) with an annual contingent grant of Rs 3000 -)
Chemical Engineering & Tech -1

Note 1 The Vice-Chancellor could place before the Selection Committee names of suitable persons for its consideration alongwith the applications received in response to the advertisement

2. It is not obligatory on the part of the University to call for interview every candidate who possesses the essential qualifications

3. The number of vacancies may change

4. The University may also prepare panels of suitable candidates for appointment against vacancies occurring within a specified period

10% of the Fellowships will be reserved for Scheduled Castes and Scheduled Tribes candidates provided they fulfil the minimum qualifications

laid down for the award of such Fellowships. In case qualified candidates are not available the reserved Fellowships will be treated as unreserved. The candidates for Fellowship whose results for the qualifying examinations are not declared by the closing date, may also apply. However, they must intimate their results (if otherwise eligible) to the concerned Department before the date fixed for selection.

Candidates for the posts of Professors and Readers who do not possess a doctoral degree are required to submit 10 typed cyclostyled copies of brief resume of their published work. The candidate has the option to fill this form in all respects on both sides and to attach 9 photostat copies thereof. The candidates are also required to attach 10 copies of the list of their research publications with their 'summary Biodata'.

15% posts of Lecturers will be reserved for the members of the Scheduled Castes and 7½% for the members of the Scheduled Tribes, but these will be treated as unreserved if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service must route their applications through proper channel. They may, however, send an advance copy of their application, on the prescribed proforma, direct to the University. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Incomplete forms will not be considered. Forms received after the due date are liable to be rejected, unless the Vice-Chancellor condones the delay by a special order. Attested copies of certificates in support of qualifications for Matriculation/School Leaving, Graduation, Post-graduation examination as also for Doctorate degree, be attached to the application. Canvasing in any form will disqualify the candidate.

Application forms, along with detailed qualifications can be obtained from the Cashier, Panjab University, Chandigarh, personally, on payment of Rs. 2/- or by making a written request to the Assistant Registrar (Estt.), Panjab University, Chandigarh, accompanied by a self-addressed stamped (worth Rs. 3.40) envelope of 23 x 10 cm and postal order of Rs. 2/- drawn in favour of the Registrar, Panjab University, Chandigarh.

ASSAM AGRICULTURAL UNIVERSITY

ADMISSION NOTICE No. 1/88

Applications in prescribed Forms are invited for admission into the following degree programmes of the University in the Faculty of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati-781 022 under course credit system from the year 1988-89 commencing from the 27th July, 1988.

(A) M.V.Sc. Degree Programme in the Discipline:

1. Animal production and Management
2. Animal Genetics and Breeding
3. Animal Nutrition
4. Veterinary Surgery and Radiology
5. Animal Gynaecology, Obst. & A.I.
6. Veterinary Medicine, Public Health & Hygiene
7. Animal Physiology
8. Animal Pathology
9. Animal Parasitology
10. Veterinary Microbiology
11. Extension Education
12. Veterinary Pharmacology
13. Veterinary Anatomy & Histology

(B) Ph.D. Degree Programme in the Subjects:

1. Animal Production and Management
2. Animal Nutrition
3. Animal Gynaecology, Obst. & A.I.
4. Veterinary Medicine, Public Health & Hygiene
5. Veterinary Microbiology
6. Veterinary Parasitology
7. Veterinary Pathology
8. Veterinary Physiology
9. Veterinary Surgery & Radiology
10. Anatomy & Histology

Minimum Qualification for Admission

(A) M.V.Sc. Degree Programme

A candidate must have passed the B.V.Sc. & A.H. degree examination of this University or any other recognised University securing minimum OGPA of 2.60 in 4.00 scale or its equivalent or minimum of 50% marks in aggregate (In traditional system) in the qualifying examination(s). This requirement is however, relaxable to an OGPA of 2.50 or 45% marks in the case of SC/ST candidates and for candidates having atleast 2 years of professional experience provided further that the minimum OGPA may be relaxed for candidates who are deputed from the State Govt. of Assam

and who have atleast five years of service experience after obtaining B.V.Sc. & A.H. degree which shall either be an OGPA of 2.30 in 4.00 scale or 42% marks in aggregate (In traditional system) in the B.V.Sc. & A.H. examination.

Ph.D. Degree Programme

A candidate must have passed the M.V.Sc. degree examination of this University or any other University recognised by this University. A candidate must have obtained a minimum OGPA of 3.00 in 4.00 scale or 55% marks in aggregate under traditional system in the M.V.Sc. examination. This requirement is however, relaxable to an OGPA of 2.85 in 4.00 scale or 50% marks in aggregate under traditional system for the deputed candidates having 5 years of service experience after obtaining Master's Degree.

How to Apply

Application forms of the above degree programmes may be obtained from the Office of the Director of Post Graduate Studies, Assam Agricultural University, Khanapara, Guwahati-781022 on payment of Rs. 5.00 (Rupees five only) in terms of crossed Indian Postal Order drawn in favour of the Director of P.G. Studies, Assam Agricultural University, either personally or by sending a self addressed stamped envelope of size 10 x 22 cm., affixing postal stamp of Rs. 1.50 (Rupee one and paise fifty) only.

Last Date of Receipt of Application

The application in prescribed Form complete in all respect must reach the Director of Post Graduate Studies, AAU, Khanapara, Guwahati-22 on or before 31st May, 1988. Candidates who are employees of the State Govt. or any other organization must apply through proper Channel.

Interview

Candidate fulfilling the minimum academic requirements shall have to appear before Selection Committee as and when called for at their own expenses.

Selected candidates who are employees of the State Govt. or any other organisations shall have to furnish a copy of the order of deputation or release from the Govt./Employer at the time of admission.

In connection with Ph.D. programme, the University reserves the right to refuse admission in the Subject(s) in case there is shortage of qualified teachers in the concerned department at the time of admission.

Application for admission into University Hostel shall have to be made in separate prescribed Forms. Admission into Hostel shall be subject to availability of Seats.

REGISTRAR